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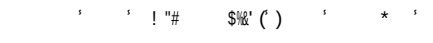

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MAP OF
CHALDÆA, ASSYRIA
and the adjacent Countries.
Constructed from the latest Surveys.
N.B. Ancient names are given in Roman type, modern names in Italics.
CASPIAN SEA
L. Van
Muska, Moschi
Carchemish
Chatti or Hittites
PADAN-ARAM
Haran
Tel Apej
MYGDONIA
GAUZANITIS
GOZAN
Arbelitis
Arbela
NINEVEH
Nisibis
Tigris
Euphrates
Nahr Chaboras
Tadmor
Tropei
Khindanes
Tauk or Shaukites
POLLONIATIS
SITTACENE
ELAM OR SUSIANA
CHALDÆA
ARABIA
PERSIAN GULF
East of 43° Greenwich
Published by John Murray Albemarle Street London.
Engraved by J. & C. Walker

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F> ;B' G:_ A:B ' ' ' >;J 6:N ' >@ >' ' F:' > 'C> : ;' 8H 6' ' D' :' >CC8 > : 9' B'@ 86;> :B' FG CG' :' G B:' ' ? B ' C 86 :B' F G 8 ' B 6 ' 6> 8 >' 6 : B' B8 : : ;' ?>69' 8C 8> 6B' > :' H: G>HB' :6 : ;' ' B>9 ' G> ' G:' : B >6' 8 ' 6' G:' B 8 G ' G:' B' 6' G:' :>B ' G:' >@ >6' ; :B: ' 6' G:' F:B ' >6;' G:' ? ' @: F::6' HH: ' >6;' F: ' %:B H >? >' 6' @:' 6 G' ?: * ' 6> 8 >' @ 86 B' FG CG' F: T' 6:A: ' :> 9' DC:: ; : ;' >6;' 6:A: ' ? CG' 6 6 : ;' 8H 6' G:B:' @ 8F;> :B' > :' ' G:' ? B ' VJ> ' : >@ 9' C :> ' ? G' G:' 6 G: 6' 6 9' B' 6A> >@ :#' > 8 >' C> :B ' G: :P > : ' ' @:' ? :6 6: ;' ? :' H> C > 9 ^#> :' H: P H: 8> 9' A> 9 6 ' G:' C 8 B:' ' G:' B' G:'QGa :' ' G:' B >6' 8 '>6;' G:' 6:' ' ; : ?> C> 6' @: F::6' G:' B>6;B' ' >@ >' >6;'# G:' A: ;8 :' ' G:' 8HG > :B' A> :9 ' $8 ' 6> 8 :' G>B' B: ' >' H: P ?>6:6 ' ?> ' G> ' F>9' ; F6' G3' %:B H >? >6' F >6; '@9'>'; : :6C:' ' :5" C> Q 8C :'FG CG' B' A: 9' C 6BH C JH8B' :> ' & ' 6' G:' 8HG 2b :B' >6;'>' :'@: F' >?> >G' 6' @:' B < G:' >A: : ' FG ' ; :BC:6;B' G:' B :>?B'@ ;B' >; :8' '>'B ?:FG>' F>A 6 ' >6;' B G 9' : :A> : ;' H > 6' ' B:C 6;> 9' ?> 6' >6;' :6 : B' 6' G:' ; :>;' >' >6;' F' :A: ' ' G:' ?: :' > 8A 8?' G:' 6:' ?B' ?: ;' B' ?> : ;' >6;' 6A> >@ :4 ' C 6B 8 :B' G:' 6 9' 6> 8 >' ; A B J'@: F::6' G:' 8HH: ' >6;' F: ' H P 6B' ' G:' A> :9'4 >6;'@ G'H @>@ 9'>; ;'G B 9

Ć +>>' G>,2?!' ' I J!I T!' 34 ' 2## 4@=>' "2' "A>' > F' 2 ' "A>' @,,BD B=' @ F' "A>' 42= => 4>=> '" 2 ' "A2 >42 F@:E' 2:=@" 2 #' ' ,@" > E&' /C ' ' F ' 7, # $ ' " % '!' D2,' a' ' UUJ K' + = ,@:,E' @ "@ ' / E 4A' 2B F' "A>

G>F' 2 ' "A>' M: #' @ M>' :2=' >GL G,>#' "2' =>:>' @,,BD B=' >@:' 7A@ ' A2, E>A!'@' $ "",>' @G2D>' "#' 42 ,BL > 4>' ? "A' "A>' FA>= ' G ' ' UR K') 2:' "A>' 2 '" ?A>:>' "A>' * B A:@">#' > ">:# 2 ' "A>' @,,BD B=!' #>>') :@#>:%#' ' ' ') ,) ! ' R

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U‘ G:‘ :D :6 ‘ ‘ > : :6 ‘ G> ; :>‘ B‘ :A:6‘ > : ‘ F:‘ G>A:‘ D:;‘ B ‘@ 86;> :B‘ >‘ 78:B 6‘ ‘ B ?:‘ ; P C8 9‘ ?‘ G:‘ :; :‘ ‘ G:‘> 8A 8?‘ >‘ :‘@: F‘ &G ‘ ‘ G:‘H :B:6 ‘C >B‘ ‘ G:‘ : B >6‘ 8 ‘ > ‘ G:‘ ? 8 G‘ ‘ G:‘ G> : >@ ‘ B‘ >‘ ; B >6C:‘ ‘ >@ A:‘ \ . ,‘ FG :‘ ?‘ G:‘ F:B : 6‘ BG :‘ ‘ G:‘ $> ‘ : ; J ‘ $‘ G:‘ B‘ > # : 8 ‘ B‘ >‘ ; <:C ‘ ; B >6C:‘ ‘ "+c‘ ? :B‘ G:‘ H :B:6 ‘ > :>‘ ‘ G:‘ > 8A 8?‘ F:B ‘ ‘ G:‘ B‘ >6;‘ G:‘ G>"3: >@‘ ?>9‘ @:‘ :B ?> : ;‘ > ‘ >@ 8 ‘ . , , , ‘ B78> :‘ ? :B‘ $8 ‘ G:‘ :D :6 ‘ ‘ >6C N36 ‘ G> ; :>‘ C>6‘ BC> C: 9‘ G>A:‘ @: :6‘ B ‘ :> ‘ ‘ B‘C: > 6‘ G> ‘ G:‘ > 8A 8?‘ > ‘ G:‘G:>;‘ ‘ G:‘ : B >6‘ 8 ‘ 6 F‘ B‘ F G‘ :D > ; 6> 9‘ >H ; 9‘ >6;‘ 6 ‘ ?H @>@ :‘ G> ‘ G:‘ F G‘ ?>9‘ 6‘ >6C :6 ‘ ? :B‘G>A:#@::6‘ :A:6‘ ? :‘ >H ;‘ G>6‘ ‘ B‘ > ‘ H :B:6 ‘ CC8 > :‘ @B: A> 6B‘G>A:‘ BG F6‘ G> ‘ G:‘ H :B:6 ‘ > O‘ ‘ 6C :>B:‘ >? 86 B‘ ‘ >B‘ ?8CG‘ >B‘ >‘ ? :‘ :>CG‘ B:A:6 9‘ 9:> B ^‘ FG :‘J ‘ B‘ G:‘ H 6 6‘ ‘ G B:‘ @:B ‘ 78> :;‘ ‘J8; :‘ G> ‘ G:‘ ‘H P :BB‘ ;8 6 ‘ G:‘ G B C‘ H: ;‘ G>B‘ @::6‘ >B‘ ?8CG‘ >Q‘ >‘ ? :‘ 6‘ :A: 9‘ G 9‘ 9:> B‘ ‘ >C:B‘#,‘ H B ‘ : > 9‘ ;:H B B‘ G>A:‘ @::6‘ 86;‘ >B‘ > ‘ 8H‘ G:‘ C 86 9‘ >B‘ : ‘ ;:‘ >6;‘ &>? ?>? #K‘ ‘ ? :‘ G>6

I / 2 "B#!‘CC ‘ ‘D", !‘ I(‘ ‘ C I+ :‘ ‘, @?, #2 !‘ ‘"A>‘C$ ‘ ‘ ‘ F #,% ‘ %@ '!‘"2, ‘ aaD ‘ ‘I J‘ W A>‘ " V@#2‘F F‘ 2"‘ >#4@ >‘ "A>‘ 2" 4>‘ 2 ‘ "A>‘ @ 4 > "# ‘ "‘ # => " 2 >F‘ @ F‘ >a@MM>:@">F‘GE‘ , E!‘ ?A2‘ #@E# "A@"‘ A@:@a‘ 2 ‘ + @# = # ?@# 2: M @,,E‘ GB ,"‘ GE‘ ,>a@ F>:‘"A>‘ 1 :>@"‘ @"‘"A>‘F #"@ 4>‘ 2 ‘, "",>‘ =2:>‘"A@,"‘@‘ = ,>‘ :2= "A>‘ #A2:>!‘G "‘"A@"‘ ‘"A>‘" =>‘ C ‘ $BG@ "A>‘ @B: "@ ‘ "‘ ?@# Q ‘ = ,>#‘ :2=‘ "A>‘ #>@!‘ @ F‘ ‘ A #‘ 2? ‘F@E‘ I ‘ = ,>#j ;9 &‘A &D ‘ R K‘ A #‘ ?2B,F‘M D>‘ 2:‘"A>‘ :#"‘ >: 2F‘@‘ :@">‘ 2 ‘ 4:>@#>!‘>a4>>F M‘@‘ = ,>‘ ‘#>D> ‘ E>@:#!‘@ F‘ 2:‘ "A>‘#>42 F‘@‘ :@">‘ 2 ‘ @G2B"‘ @‘ = ,>‘@‘ E>@:"‘ 2:‘ 2:‘ "A>‘ ?A2,>‘ 6 >: 2F!‘ @‘ :@">‘ 2 ‘ @ = ,>‘ ‘ $‘ E>@:# ‘ ? N‘ / 2 "B#!‘ ‘ $2B B@9‘ ‘ # @ ‘" % '!‘D2, ‘aaD ‘ ‘IUJ

-, ,' ? :B' _ ' >': ?@ 8CG8 :' 'd :' G> : >@'4
>6d' G: :' B' >?H :' : B 6' '@: CA 6 ' G> '>' G:'
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G BG:; ' G:' : B >6' 8 ' :>CG:;' 6 >6; ' "-,' '
".,' ? :B' 8 G: ' G>6 > 'H :B:6 ' 0 :' ?8B';:;8C'
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' 8 >' ' $>A> >'4 ' B' ? O.' G>6' ; 8@ :;'
@9' 6 >6;' ? H' G>6' 78>; 8Hg:;' @9' 8BB >' >6;'
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'C: > 6' >;A>6 > :B' 'B ' C ?> :'Q 6;' H B 6'
FG CG'F '@:'C 6B ;: :;' 6' G:'6:D 'CG>H :
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G> ;e>' G:' CG : (> ? B' G:' : (: >HG C>'
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, "2 %# < ' B % !' ' "A>'2"A>:', ""2:@,' #,@ F#!' # #A2? '"2'
q, ,' ' ' UR !' ?A>:>' "A>' ?A2,>' @:>@ G>' I' = ,>#!'
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& 4 ' *+ ')' *' * *+' ' 1 +' T

FB' ' ' G:' C! B '9: ' :B8? 6 '>' :' @: F' @:' G 9 8 @' H> > : ' B' B;@ G: 9' ; :C 6' ' B' m@ 8 G' >!S 8' $> G;>;' F G 6' F:6 9' ? :B' ' G:' ZB : ' B :>?' ?' G B' H 6' G: :' B' > > 6' >' ; A: :6C:' G:' C 8 B:' ' G:' 8HG > :B' FG CG' J4 ?' & ' ' G:' ? 86;B' ' % G>? ? :;' N 6 ' \\k5' G>;#@: :6' ' @:C ?:B' ?8CG' ? :' B 8 G: 9' U_ % ' G;' ' G:' B (FG CG' >B' F:' G>A:' B::6 ' 0>B' 7' >' FG :' ;8:' 8 G (@:C ? B' 6C:' ? :' 6 9' B G 9' B 8 G' ' :>B ^' ' 6:> # : 8 ' FG: :' G:' ; B >6C:' @: F::6' G:' A: J ' $>B' 6C :>B:;' ?' F:6 9' ' >' G86; :;#' ? :B' : ' H>BB 6 ' :P BH:C A: 9' : ' >6;' ' 1G #' @:' F ' B :>?B' C 6P A: :' >H ; 9' G:' F' ' G:' 8HG > :B' B' > ' B' ' >6;' G:6' >' :' 6 J2 G' ' :>B ' ' 18 6>G' FG :' G>' ' G:' B' B' ' ' G:' B>?:' H 6 ' G:' 6:B' ' G:' B :>?B' 6' G B' >B' H 6' ' G: ' C 8 B:' : G: ' F G' G>' FG CG' ?>9' @:' ; >F6' >C BB' H H' B :>?' ' B :>?' ?' 6:> 9' >6' :78 P > : >' >6 :' G:' ; B >6C:B' @: 6 J' :BH:C A: 9' ",\' "",' >6;' ""j' ? :B ^' ' >H ;' B' G:' 6>' C 6P A: :6C:' ' G:' F ' :>' A: B U' G:' B' >6;' 8HG > :B' > :' @ G' B :>?B' ' G:' B' ;: ' G:' :B ?> :;' :6 G' ' G:' ?: ' 6C 8; 6 '?> 6' F 6; 6 B' B' ""\5' ? :B4 G>' ' G:' > : ' B' "[+,' ? :B < :' ? B' A: B' G>' G>A:' G: ' B 8 C:B' 6' G G' ? 86 > 6' : 6B' G:9' > : ' B 6 ' ?' G:'U B ' >6;' :C: A 6 ' 6' G: ' :> 9' C 8 B:' >' A> ' 68?@: ' ' ?H >6 ' @8 > :B'@:P C ?:' @ >;' >6 2;::H' B :>?B'@: :' G:9' BB8:' 8H 6

H' ' 2 >' @:'" 2 ' "#' 42B:#>!' D b' Ć):2=' *,' 7A ":' "2' +>:B'" "A>' :2='7B" >,5 =@:@A' @'" "A>' =2B"A' F :>4'" F #"@ 4>' # I U' = ,> :2='
2'"A>'+A@"5>,5 2'"2' B##B '7A@ %# +4:B'" "2' 7B: @A' "2' *,' 7A ":' II !' @ F ==' 2:"!' Q '= ,>#,2 (:'F2? '"A>'#":>@=!' 7B: @A' "2' *,' 7A ":' IIQ
"A>' F :>4" 2 ,' 2 ' "A>' M: Ć # >D> ' ' 6 I '!' # ' # !'
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G:' H > 6B' _G : ' 8HG > :B' B' 6>A >@ :' ?' 8 ' ? : > ' N G:' >6C :6 ' ? B> >S' , ,' ? :B' >@ A:' B' : ?@ 8CG8 :'4 >6;' :A:6' "+,' 6 :B' G G: ' 8H' B# >' A: ' K ' ?H B 6 ' >HH:> >6C: L' "-,' 9> ;B' A :' >6;' A: 9' ;::H ^' G:' B' B' :6' -j,' 9> ;B' F ;:' > ' > @: ^' FG CG' B' 6 ' >' G86; :C ' ? B' ?' B' B 8 C:' >6;' B' 6>A >@ :' 6' G:' ;'# ?:' ?' G:' @ ; :' ' > @: ' '% B8 2K ?' nA> C # H >C:' ' B' ;:BC:6;::;' > ' > ' B:>B 6B' ' $> G; ;' >6;' G:6C:' ' G:' :> 2' B' >A: > :' F ; G' @: F'% B8 ' B' -,' 9> ;B' F G#>#;:H G' FG CG' > FB' G: >BC:6 ' ' G ' B :>?: B' 86 :BB' FG:6' G: :' B' >6' > C > ' @B 8C 6 ^' @ A:'*% B8' G:'F ; ' > : 9#:DC::;B' "j,' 9> ;B' >6;' G:' ;:H G' B' 6 ' ? :' 6' H >C:B' G>6' G ::O' ' 8 ' : ' G:' 8HG > :B' B' -j,' 9> ;B' F ;:' > ' $> @ ' >6;' >2 : > :B' .j,' 9> ;B' ?' B' J86C 6' F G' G:' 1G>@ 8 <' ' & '4 B' ;:H G' B' C ? ? 6 9' ?' ::6' ' F:6 9' :: ^' ?> ' B :>?: B' G>A:' ;:BC:6;::;' B' :6 :' C 8 B:' ?' $ ' ' G:' B:>' G:'A 8?:' ' G:' 8HG > :B' 6' H >C:B' B' G F:A: ' B ?:FG>' :BB' G>6' G>' ' G:' B' FG CG' B' >' BF : ' >6;' 6' B' > : ' C 8 B:' >' ;::H: ' B :>?' ' G>B' @::6' C> C8 > :;' G>' G:' 78>6 9' ' F> : ' ; BCG> :;' :A: 9' B:C 6;' @9' G:' B' > ' $> G;>;' B' "5\ ",.' C8@ C' :: ' FG :' G>' ; BCG> :;' @9' G:' 8Hg > oB' >' & ' B' [- +,\' :: #

C ' A># >E!' # ' # !' D2,' ' ' UU
N G F' ' IQ' "' 2 ,E' @""@ #' "A #' ? F"A!' A2?>D>:!' ' "A>' #>@#2 ' 2' "A>' ,22F#' 1> >:@,,E' "' #' @"' @:A>O:' @G2B"' I ' 2:' I ' E@:F#' ? F>
/2 "B#!' 6 % ' '" !' ' 't
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C A>' < A:@"4#%#"m "=>:!' B F>:' / >B"> @ "' / E 4A!' @#4> F>F' "A>' L M: #' >@:,E' "2' =:BF' ' I "' GB"' ?@# #"2 >F' @ '@:" 4 @,' GB F' 2:' F@=' "A:2? '@4:2## "OG' #":>@=!' >@:' "A@"' ,@4>' A>#2>E!' D2,' ' ' K' A>' < "24: #' ' I UJ' @"">= ">F' "A>' @#4> "!' GB"' ?@# B @G,>' "2' :2L 4>>F' @:' @G2D>' 20: "!' :2=' @' ?@ "' 2 '#B , > > "' 2?4:' ' R >>"R' ' ' $!' D2,' ' 4G '& ' I TK ' A># >E!' D2,' ' 'Q 5Q ' G F' ' J 9' H

G:' B' >! ;' 8HG > :B' > o' 'N 9' ; : :6 9' C C8?B >6C:;' F2 G' :BH:C' ' @8 > :B' ' c6' U>B' ' 86 ' >? 6 ' G:' ?:6 >6' ? 86 > 6B' G:' 8HG > :B' G>B' 6;::;' 6 ' *>C ' ' > 8:6 B'4 @8' G:B:':DC:H' G:' 1> >' 8' ' 6 G: 6' 8HG > :B' >J:'B :>?B' '6 ' :>'A 8?:'@: 6 'CG : 9'? 86P > 6 :6 B' FG CG' C :C' G:' ; > 6> :' ' A: 9' U8 :;'@ZB 6B' : ' ' :>A:B'2 G:' ? 86 > 6B' >6;' :G : B' O8H 6' G:' F'IC 86 9' >' f58?:B> ' G:' > 8:6 B' > ? B' :6 : 9' C:>B:4' 6: # G:' A: ' ' >J8 ' B' :C: A:;' ?' G:' ' 6' >@ 8' > ' .5k' \,24' >6;' F ' '6 :' ?H >6C:' F' 6' ?' G:' : (G:' $: 'N>6C :6 'K$ CG8BS' FG CG' J 6B' ' 6 6 ' .XK' X2' >6;' G:' 1G>@ 8 ' N>6C :6 ' &>@ ' ' G>@ >BS' FG CG' : :C ' >' J86C 6' 6' 6 ' \,k' .,2' > ' . '[2' G:' $: ' >6;' 1G>@ 8 ' C :C' G:' F> : B' FG CG' F' ?' G:' B 8 G: 6' >6 ' ' G:' ? 86 > 6#' >6 :' >@ A:' >' %> ; 6' >6;' B @ 6' @:B 'Y 6 F6' >B' G:' K'% 6B' %>B 8B'L' ' >@ ^' G:9' > :' 6 ' G F:A: 'B :>?B' ':78>' ?H >6C:' G:' $: ' G>B' >' C 8 B:' FG CG' B' 6:> 9' B > G ' >6;' ; :B' 6 ' ?8CG' :DC::;' "-,' ? :B' G:' 1G>@ 8 ' 6' G:'C 6 > 9' B'B8 C:6 9' B 68 8B' >6;' B' C 8 B:' ?>9' @:' :C 6:;' >' 8 9' -,,' ? :B O' ' B' 6>A >@ :' @9' > B' ?' G:' J86C 6' ' B' F ' ?> 6'@ >6CG:B'6:> ' G:'A C>6 C' C 6:' ' 1 8 >@ #' >6;' >;;B' >' C 6B ;: >@ :' @ ;9' ' F> : ' ' G:' 8J > :B' $: F' B' C 6 8:6C:' F G' G B' B :>? ' ' ;8 6 ' G:' >B' +,' ? :B' ' B' C 8 B:' G:'# N G > :+' ; :B' 6 ' :Co A:' >' B 6 :' @8 > 9' 6' G:' C 6 > 9' 'B 6'@: 6B' ' A: ' B' F> : B' G '>6;' : ¸' G F 6 ' 8' @ >6CG:B

FG CG' : G: _: ? 6> :' 6' ?> BG:B ' : B:' : ?H 9' G: GB: A:B' 6 ' G:' B ' : ' FG :' 6; : : ;' ' :C: A:B' C ?H:6B> 6 '@9' ? :>6B' 3 ' G:' G> : & :#' >6;' G: ' @ >6CG' B :>?B ' FG CG' @ 6 ' @>C ' ' ' ?' G:' B ' @: F::6' %8 G: ' >6;' 18 6>G ' G:' :> : ' H 6' ' G:' @ F:;' 8 ;' G: ! ' 6' G:' C 6 > 9 ' B' > : 9' :6 CG:;' G 8 G 8 ' G:' FG :' ' B' C 8 B:'@9' G:' F> : B' ' @8 > 9'B B$ # ' B' ?:;' ; 6> 9' ' $ ::' ?> 6' @ >6; :B) G:' > @: ' B >? ' ' 8:' B ' G:' %9> > : 6' A: ' >6;' G:' $!JB' G> ' ' :6 :B' ' / :6 P HG 6 ' FG CG' C> :B' >' :> : ' @ ;9' G>6' : G: ' ' G:' G: ' F ^' ?' B' :6 9' 6' G:' F'QC 86 9' 6:> ' *:` :G' ' G:' : ? 6> 6' ' B' C 8 B:' > ' 18 6>G ' # B' C 6 68>J 9' :C: A 6 ' ?' G:' : '>' B: :B' ' ? B ' ?H >6 ' >; ; 6B ' # G:' CG> 6' ' p> B ' FG CG ' 866 6 ' H> > :' ' G:' F ' ?> 6' B :>?B ' BG8 B' 6' G:' %:B H >? >6' H > 6' 8H 6' G:' :>B ' >@ 86;B' F G' BH 6 B ' FG CG '> :' F: ' B8HH :;' ;8 6 ' G:' FG :' 8? ? : ' ?' B' B6 FB ^' >6;' G:B:' FG:6' C :C : ;' ?' A: B' ' > :' B `:' >6;' ? B ' : :BG 6 ' C 6:BB ' G:' H 6C H>' > :' G:' :>B : 6' 1G>@ 8 ' FG CG' J 6B' G:' B ' 6' > ' .[K' "-24' G:' HH: ' p>@' FG CG' > B' 6' @9' G:' 8 6B' ' ? 8;4 G:' F: ' p>@' FG CG' J 6B' B ?:' F>9' @: F' 1 :G' G: G> 4 G:' ;G:? ' FG CG' 86 :B' B' F> : B' G> ' F>9' @: F::6' >?> >G' >6;' $> G;>;4>6;' G:' 9> :G' N>6C :6 ' 96;:BS ' FG CG' B' :C: A:;'@: F::6' $> G;>;' >6;' G:' 8 6B' ' :B HG 6 '

% ' ' & '' &' ' (')* +'

9 .> 2 A2 !' !' D' !'] I ' N @G2B"' >^B@,' ' # b>P' "2' "A>' B ">F' ;' =E@:4,!' A ' ' : $!' E@ @:>O ' @ F' @:G>O"' : D>:# 4 C ' 'UT ' A>' ", # A@ ' @"' C / 2 "B#!' K % !' ' 9 !' ,!' B#"' @G2D>' "A>' 2 "' 2 ' 42 ,BL ' "C ' ', '$# &' " % '!' > 4>!' ?@#' 2B F' GE' :' / @E@:F' "2' G> D2, ' a ' & ' TQ ' H

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>6' >A: > :' Y; G' ' 6 9' - , , ' 9> ; B ' >6 ; ' >' ; : H G' '
>@N#8 ' "+' ' "X' : : =I ' F CG' ? H : '>' @ ; 9' ' F> : '
> ' 6 : ' ' G> ' C> : ;' @: : : 6' G:' J86C 6#
F G' G:' 1@>@ 8 ' >6 ;' & ' % :' : C : 6 9 ' G:'
; : C 6:' ' G:' B :>?' 6' B' > : ' : B:' G>B' @: : 6'
86 ;' ' @:' : A : 6' :> : ' & : :C ' ' G:' @>Q B' G>B'
> F : ;' G:' A: ' ' BH :>;' B: ' ? :' >6 ;' W6 :'
F ; : 9' A: ' G:' >6 ; 24' >6 ;' ' B' B> ;' @> ' :. C:J H
G:' ;' ?Q ' A: 9' :Q ' G:' 8HG > :B' F> : '
:>CG:B' G:' >:> ' & ' B' G B' >6' 86H :C: ; :6 : ;' '
A: 9' 868B8>' B > :' ' G 6 B ' ?' G:' C C8?P
B >6C:' NH @>@ 9S' G> ' 'G>B'@: : 6' : ;'@9' G:' ; : H P
B B' 'B :>?B' F 6 ' ?' G:' :>B 'Q>B' F : @>B' ?'
G:' 6 G' G:' F: ' %:B H >? >6' H > 6' B H:B' 6 '
6 9' ' J 'B 8 G'@8 ' ' G:' F:B # G:' 8HG > :B '
FG CG' G>B' F' @>6 B ' B' G:6C:' > ' >&' ? :B' 6C 6: ;'
' :>A:' B' @: ; ' >6 ;' ' F# ' ' G:' G #' FG: :'
> :' >C B' > :' @: F' B' ; 6> 9' :A: ' A: '
G:B:' ' BH :>;B' B: ' ? 6 ' G:' F: 6 F6'
K' G> ; ?>6' ?> BG:B L ' FG CG' >@B# @ G:' CG :<' H P
6' ' G:' F> : ' G> ' FB' 6 ' G: ? ' >6 ;' 6' FG CG'
G:' K' :> ' A: 'L' B: : ?B' > ' A> 8B' ? :B' ' G>A:'
FG 9 ' ' > ? B ' FG 9 ' B ' B: ^' ' B8CG' ? BP
86:' C>6' @: > ' G:' B ' FG CG' 86B' 6' >' ; : : H

!' D2, ' '
' QT!' J
' / @E@:F!' A !' ' : ' $!'
4A ' aa ' ' URQ'' / 2""B#!' 6 '
' : !' ' UQ
I >>:> %#' #"@">=> "!' ? 4, ' #'
F :>4",E' "A>' :>D>:#>' 2 ' "A #' /, %
A !' D2, ' ' ' I I!' * ' K!' # @'"
2 4>' @,#>' @ F' #>, 542 ":@F 4"2:E '
A>' N' F>> 'G>F'P' @ F' N' G2,F' #A2:>#'P'
2 '"A>' M: #' @:>' "A>' 42 #>^B> 4>' 2 '
"A>' L& ' ,>D>' 2 ' "A>' ,@ ' ' "#'
H "E ' A>' @,, ' 2 ' ", >' M: #' #'
=B4A' M:>@">:' "A@ ' "A@'" 2 ' "A>' * BL

A:@">#' ' "#' ,2?>:' 42B:#>!' @ F' "A>'
#":>@=' 4B"#' F>> >:' "2' "A>' @, , BD B=!'
2 ' "A>' : 4 ,>' 2 ' ?@">:' F M' "#'
2? ' ,>D>, C' H
C / 2 "B#!'
' :: @ !' # &' &' D ' I!'
'' +":@G ' aM !']' I I!' I ' A>'
N' ,@4B#' A=F@ 4 'P' " ' , E' ; 9 &'
A &' D ' RK' :> >:' :@"A>:' "2' ", >'
=@:#A>#' 2 ' " >' ,2?>:' M: #' +>>'
"A>' >a'" @M> K
C :: @ !' # &' &' D ' R'"
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;> :B' @; G' @>6 B3' ? :' :BH:C > 9' G:' C 86 9' >GHA:' $> G;>;' N ' F CG' ' B'C> !Y:;'@9' G:' > >' F 9:G'C>6> S' G:' >C'F:B' ' :' $ B' ? 8;'>6 ' :D :6; 6 ' G:6C:' @9'F>9' ' :;J ' ' >>A>'>9;' G:' : 9' ' G:' :J >@B'@: F::6' G:' A: B' >@ A:'>6;'@: F' G:' .-6;'H> > : ' B' ;JB'G FP :A: 'A: 9' : 8 > ' F 6 ' ' G:'6> 8 :' ' B' >6 B' >6;' G:' :6: >' 6C 6> 6' ' G:' H > 6'QFG < ' ?:6 6'F>B'J>>;:'>@ A: ^' * 'C> :' B' > :6' G:' 686P ;> 6'?>9'@9'H : 9':78> 9';B @8 :;' 6': G: 'B ;:' ' G:'B :>?4 @9' ' G:' A: '@>6 B'> :'6: :C :;' ' B' B8 :' ' F' >6 9' G:'F:B ' :6;: 6 ' G:' FG :'C 86 9' 6' G>'B ;:' G:' A:9'>'BF>?H'>6;' :>A 6 ' G:' : 9' 6' G:' : '@>6 '> ? B'F G 8' F>: ' G B' B > :' ' G 6 B' ?>9'@:' >C:;'G B P C> 9' 'G:' > :' # :D>6;: ' ' G:'H :B:6';>9' >6;' G>B' H @>@ 9'H :A> :;#? :' ' :BB' B 6C:' G:' ?:'FG:6' G> ;B:>' :C: A:;' B' B'6G>@ >6 B G:' ;B' ' G:' B'>6;' 8JJ > :B'C ?@6:' F G' G:' ;6> 9'>C 6' ' G: 'UB :>?B'8H 6' G: ' @>6 B' 'H ;9C:' C 6B>6'A> > 6' 6' @: 'C 8 B:B' F@C@' 6'>' 6 'H: ;' ' ?:'? G'>? 86' ' B ?:G6'A: 9' C ? ;: >@:' ' B' ?H BB@:' ' B>9'F G' :BH:C' '>69'H 6' 'G:'> 8A>'H>G' G>' '?>9'6 '>'B ?:' ?:'H: ;'G>A:'@::6' G:' @:;' '6:0' '*G:' G:' A: ' ''F 8;'B::?' G>' 6' G:'FG :'>' >F' 'C ?H:6B> 6'H :A> B' F G' G:' :B8 ' G>' G:' :6: J_*' H B 6' ' G:' B :>?B' 6' G:'A> :9' B' 6 'A: 9';: :6'6 F' ?' FG>' 'F>B'\,,,'9:> B'> ' : 9 '@: F::6' G:' H :B:6'C 6; 6' ' G 6 B'>6;' G>' 6' :' ?:' ' :D>6;: ' ':A:6' '&: ; 8B'6 ' :>';: :6C:' C> 9@:'H 6:;' 8 ':DC:H'6' G:' : 6' ??:;>:9

>;J 6 6 ' 6' G:' 8 ' FG: :' G:'> 8A 8 'G>B' F6 '
>6;' G:' B :>?B' F CG' F: :' C 2 6: 9' B:H> > :' G> ':'
& :;' G: ' F> : B#' G:' 8HG > :B' B ' FB' @9'
& ' N BS' > .' G 8 G' $>@9 6' 4 2 G:' B' H>BB:B'
6:> ' H B 2 >6;' > ' $> G;>;' 86B' > ' G:' ' ' >6'
:?@>6 Q:6 ' ?>;:' 'C 6 6:' '@9' :@8CG>;6:``> #'
G:' CG>6 :B' >C:>@ :' > :' :BB' 6' G:' ?> 6' C 8 B:B'
' G:' @ >6CG' B :>?B' FG CG' H: JS: 8> 9' A> 9 '
@: 6 'B : ?:B' : ' ; 9' G 6' >' :F :> B' ' G:'
?:' G> ' G:9' G>A:' @::6' 6>A >@ :' CG> :B ^
G:' ? B' ?H >6 'A> > 6B' # G B' 6;' > :' 6'
G:' B ;:' ' >@ ' &: :' G:' ;:B: ' B' > F>9B' :>;9'
' :6C > G4 >6;' G:' B' ' G> ;:>' B: ';:H:6;'
8H 6' IG:' ; B >6C:' ?' G:' ?> 6' A: ' ' FG CG'
B ?:' @ >6CG' B :>?' C 6A:9B' G:' 8HG > BB' F> : '
6' G:' ? B' 8 BG 6 ' ?:B' ' G:' C 86 9 '>' F ;:'
>6;' ;::H' CG>66: ' @ >6; 6 ' ' 6:> ' & ' > ' G:'
A: 9' C ? ?:6C: :6 ' ' G:' > 8A 8? ' G>B' B :;'
G:' >@ >6' C O'>6;' >A: ' '>' ; B >6C:' 'B:A: >'
G86; :;' ? :B' >6;' G>B' :6 : :;' ' : B >6' 8 '
@9'>' ? 8 G' ' B' ? #' 6' G B' F>9' G:' :D :6 ' '
G> ; :>' G>B' @::6' > ' ?:B' > : 9' 6C :>B:; '>' A>B '
7H' @: 6 ' :6;: :;' C8 A>@ :' FG CG' B' G: F B:'
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N' >:2F!' ' IRT!' I
' G F' ' I T'' .4 ' DG' ' U!'
]' Q' A>' V''>' 2 ' # #' :2GL
@G,E' =@:O>F'GE''A>':B #'@'' * &'
+>>' "A>' :>=@:O# 2 ' + :' '' *@?5'
, #2 ' ' "A>' @B"A 45%#' >:24 2 @#!'
D2,' !' ' J!' 2 ' C'H
Ć + :' ' ,,@?, #2 ' 6 $$ '
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h - / Z ' H

4A@ M>#' ' '' :>' G>F' 2 ' "A>' M: # @:>'
"A2BMA'' "2' G>' ":@2>@G,>' @' , "",>' G>,2?'
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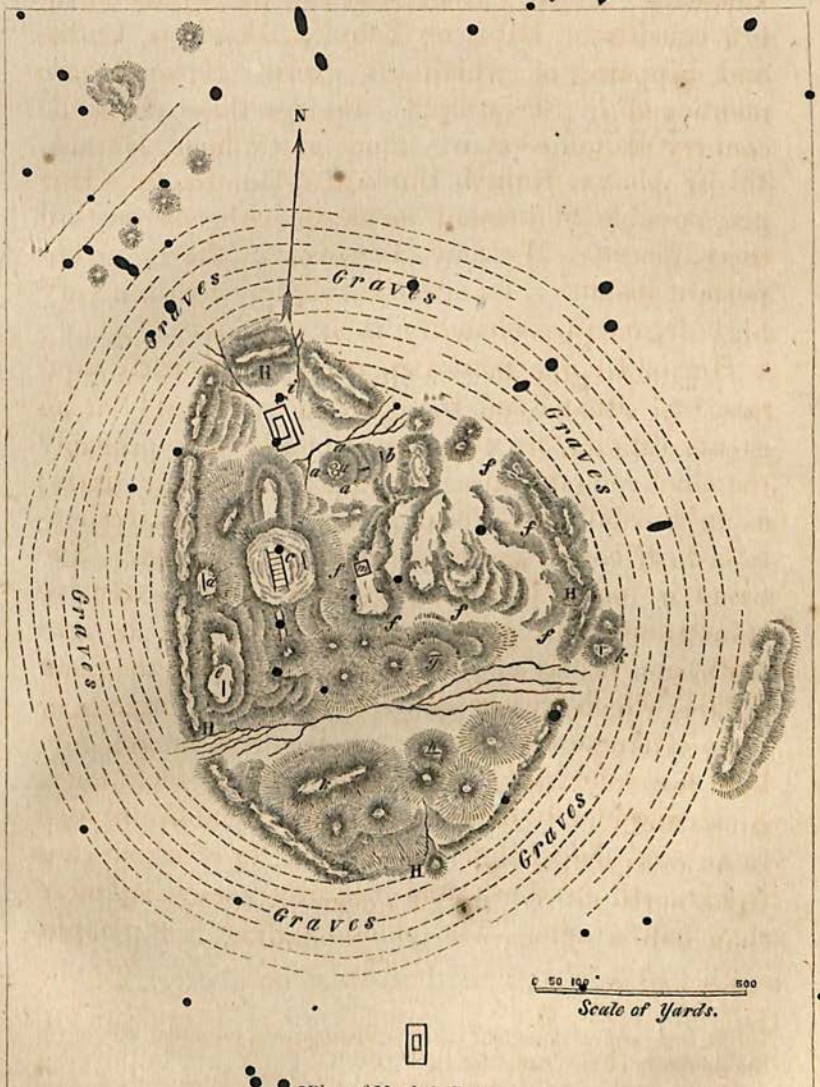
% ' '' % '!' D2, ' # ' ' UR K
Ć +A@ :B:' A2,@4"B !' ' "A>' 2B:"A'
4> "B:E' 2 ' 2B:' >:@!' > "A>:' 4B'' 2:' :>L
2 > >F' "A # 4@ @, ' >' # #@ F' "2'
A@D>' "> F>F' '' @# @' F> > 4>' @M@ #''
"A>' :@G#' ' :@G @ ' M>2M:@ AE'
'' # O 2? ' @#' * @' '' !' 2:'
N' +A@ B:%#' F "4A P' A>' :4# ''
@=>' # * % ' '' &' $

8CG' > : ' G:' CG :#' H 6 B' ' 6 : :B ' C 66:C : ;' F G' G:' F ' :> 'U%:B H >? 6' A: B' G:B:' ? ' >B' G>B' @: : 6' > :>; 9' @B: A ; ' G:' 6 9' ?> :;' >6;' B 6 ' C@> 2>C : B CB' ' G:' C 86 9' F :G' :DC:H ' ' G: ? '>6;' ' 6:' 8 G: ' :> 8 : 'FG CG' 6 F' :78 :B'6 C: 'F 8 ;'@:'>@B 8 : 9'86A> : ;'>6;' 86 ? ' 6' G:' >@ >6' B ; :' ' G:' 8HG > :B' j ,' ? :B' B 8 G' ' G:' 8 6B' ' $>@9 6 '>G ; j ' . ,' ? :B' ?' G:' A: # B' >' :BG F> : ' > :' ' A: 9' C 6B ; F>@ :' ; ? :6B 6B (G:' $>G : ;J ' G:' K' BB9 8 ?' B > 6J >'L' '*8B 6 ^' G B' B' >' 6> 8 >' @>B 6 ' \ ,' ? :B' 6 '>6;' ?' " ,' ;' - ,' ? :B' @ >; ' :6C B: ;' 6' G : :' B ; :B' @9' B>6 ; B >:' C # 'A> 9 6 ' ?' - ,' ' - , ,' : : ' 6' G: G ' >6 ;' BG8 ' 6' h6' G:' 8 G' B \: (G:' 6 J :>B (@9' >' C 9' ; : 'FG CG' 6 : A:6:B' @: F : :6' G:' A> :9' ' :' 8HG > :B' >6;' G B' 6 >6;' B:>' G:' C B' > :' F> : F 6 ' H :P B:6 6 ' ; B 6C ' 6 ; C> 6B' ' ? :# @>6' 6:' :A: ' > ' FG CG' G:' F> : ' G>B' :B : ;' 6' >? : ' ? :B ^' ' G:' B:>B 6' ' ' 686 ;> 6' G B' > :' B' >@ :' 2@:' C 6 86 ; : ;' F G' G:' :D :6B A:' ;B' >6;' ?> BG:B' FG CG' :D :6 ;' C 6 68 8B 9' ?' G:' C 86 9' F :B ' ' G:' $ B' ? 8 ;' 2 > ? >A>' $8 '>' G: ' ? :B' G:' ; B 6C 6' @: F : :6' G:' $>G ' >6;' G:' ?> BG:B' B' A: 9' :A ; :6 ' G:' ? : ' : ? > 6 6 ' FJ :6' G:' > : ' ; B>HH :> ' > : G: ' >6;' 6 ' ; ? 6 BG 6 ' A: 9' :> 9' 6' B H' :A:6' 6' G:' ; :B ' B:>B 6' G:' F> : ' ' G:' > :' B' :BG' >6;' BF : : ' B ' ; 6 ' >B' ' C ? ? 86 C> :B' F G' G:' 8HG > :B4 FG:6' G:' C ?P ? 86 C> 6' B' C8 ' ' ' @:C ? :BQ' 9 86H> > >@ : ' >6;' G B:' FG ' ; F: ' 6' G:' A C 6 9' > :' 6 ' 6 : ' >@ :' ' ; 6 ' ' G B' :B8 ' B' ;@8 : ;' ' G:

G> ; : :B L' :CG ' > 6:G ' >6 ;' >B> ^' G:' 6 GP : 6' C 6B B B' ' $>@: ' ' $>@9 &' $ B HH>' 8 G>' >6 ;' HH> >' ' FG CG' > ' : C:H ' $ B HH>' > :' ? :6 6: ;' 6' C H 8 : #K $:B ; :B' G:B:' C :B' ;G:' C 86 9' C 6 > 6: ;' ? >69' G: B' >B' G ? >; ' 8 >@ ' G ' ' G>A>' 8@:B ' 8 >6 2: &8? @>' I C ' ' B' 6 ' H BB @ :' > ' H :B:6 ' ' C> :' F G' >CC8B>C9' > ' G:B:' H >C:B' 0 :' ? >9' G F:A: ' 6' G:' ? '2 ? P H >6 ' 6B 6C:B' D' : T 'C: > 6 9 ' ' FJ G' >' A: 9' G G' ; : : ' 'H @>@ 9' G: 'H B 6 ' U &8 ' ' ' %: ? B' ?H >6 ' ' G:' :> 9' C>H P > B' F>BsB 8> : ;' 6' G:' 8HG > :B' H @>@ 9' > ' 6 ' :> ' ; B >6C:' ?' B' ? 8 G ' # ' F>B ' H @>@ 9' G:' CG : 'C ? ? : C > ' : ?H 8?' 6' G:' :> 9'Q ? :B' 4 >B' 6' :' @ 6 8> ' A C>@8 > :B' B' BG HB' > ' ? :6P 6: ;'J @ $6 :D H6' F G' G B:' ' G H > #' G:' 6> ? :' B' 86 ;' ' G>A:' > >CG: ;' ' G:' :D :6B A:' 8 6B' N6 F'>@ 8 ' B D' ? :B' ?' G:# A: ' 6' B' G ' @>6 ' >6 ;' 6 :> 9' HH B :' B' J86C 6' F G' G:' G> ' : & :S' FG CG' :' 6 F6' @9' G:' 6> ? :' '%8 G: ' ' K' G:' @ 8? :6: ; L' ' &: :' 6' >' ; :>;' > ' @ :6' 6 9' @9' >' : F' B>6 ; G B' > :' >C:B' '>' C 6B ; : >@ :' F6 ' C 6B B 6 ' CG : 9' '>' B: :B' ' F' ? 86 ;B' ; BH B: ;' 6' >6' A>' BG>H: ' G:' > :B ' ; >? : : ' 'FG CG' 86B' ?' 6 G' ' B58 G J >6 ;' ? :>B8 :B' BC ? : F >' ? :' G>6' G> ' >' ? : ' G:' CG : ' @8 ; 6 ' B' >' : ?H :

1 ' "A:>>' 2B" 2 ' "A>#>' 2B:' 4!@#>#' "A>' # = ,@: "E' 2 ' "A>' @=>' 2:=# @' #B 4 > '" M:2B F' 2:' "A>' F> " 4@L " 2 ' ' "A>' 2B:"A' 4@#>' "A>' 4A > ' M:2B F'2 ' F> " 4@" 2 ' #'@'#"@">=> '" ' "A>' @, = BF' "A@"' 2 A>:' ? @# "A>' # ">' 2 '"A>' @, >A' 2 ' =:2F ! H ' N' + @:@' #' "A>' +4: "B:@,' +> A@:5' D@ = ' A>' >G:>?' ">:=' A@#' @' FB@,' > F M!' G>4@B#>' "A>:>' ? >:>' "? 2 + @:@#!' 2 >' 2 ' > "A>:' # F>' 2 ' "A>' : D>: ' ! Ć + :' + , 0 D, #2 !' '"A>' C ' ' ' F # % ' " % '!' D2, ' aaD ' ' I Q Ć : ' >E,2:f ' "A>' C ' ' ' %' " % '!' D2, aD ' ' ' + :' ' *@?, #2 ' :> >:# "A>' F>: L D@" 2 ' 2 ' $, ! N "A>' =2"A>:' 2 ' G "B > P



Plan of Mugheir Ruins.

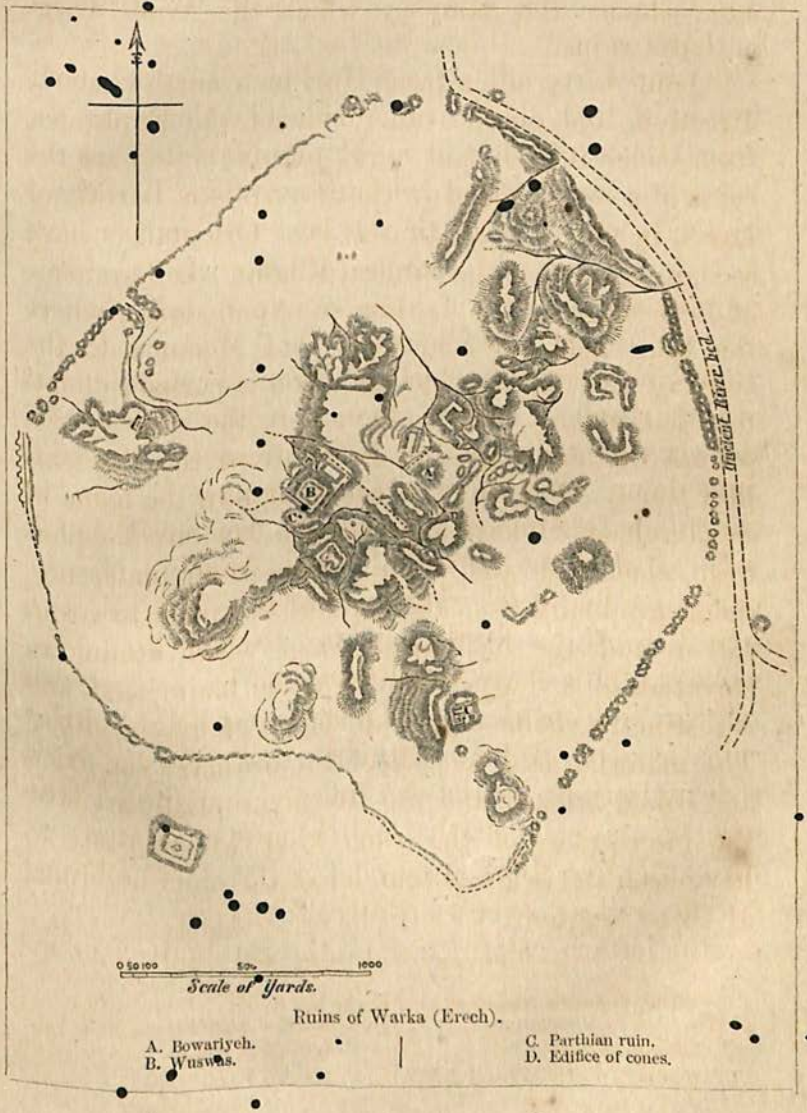
H H H H. 2946 yards round.
a a a. Platform on which the house *á* is built.
á. House cleared.
b. Pavement at edge of platform *a*, 12 feet below surface.
c. Tomb mound.
d e g h k l m. Points at which excavations were made by Mr. Loftus.
f f f f. Comparatively open space of very low mounds.

-- *') + ' '

G: :> : ' @f' C6 :' H> C8 > 9' ;:BC @:;' FG CG'
B' >' A: 9' C 6BH C8 8B' @J:C' A:6' >' >' C 6B ;: P
>@ :' ; B >6C:' B' :> :B ' G: G ' >@ J :' G:' H > 6'
@: 6 ' >@ 8 ' B:A:6 9' :: ^' ' B' @8 ' 6' >' A J 9'
8;:' >BG 6' ' > :' @ C B' C:?:6 :;' F G' @ 8P
?:6 ' FG:6C:' G:' 6>?:' @9' FG CG' G:' >2@B' ;:B P
6> :' G:' 8 6B' #
@ 8 ' G 9' ? :B' ?' &8 ' 6' >' 6 G A :6 9'
; :C 6 ' > ;' 6' G:' : ' B ;:' ' G:' *8HG > :B '
?' FG C@# ' B' ; B >6 ' : G ' ' 6 6:' ? :B #' > :' G:'
8 6B' '>' F6 #C :;' 6' G:' 6BC J 6B' > > ' '
> B>' 6' FG CG' B ?:' ' @:' @:B ' :6 > B B' G>A:'
:C 6 B:;' >' 6C:' G:' $ @ C>' >B> #' G: > >6CGB:'
' $: B8B K' >6;' G:' > BB>' ' H ; 8B OFG: :'
G:' 6 ' G: ;' G B' 8 ' FG ' B:6 ' %:?6 6' ' G:'
B : :' ' 9 ^' G:' ;:6 J C> 6' B' H: G>HB' ; 8@ P
8 '4 @8 ' >' >69' > :' F:' G>A:' G: :' G:' :?> 6B' '>'
B:C 6;' G> ;>:>6' C>H > ' ;> 6 ' ?' G:' A: 9' :> P
:B ' ?:B ' G:' 8 6B ' FG CG' @:> #6 F' G:' 6>?:' '
:6 : :G' ' J > >' C 6B B ' '>' F' C C8 > ' H > P
?' >@ 8 ' 8 ' >6;' >' G> ' ? :B' 6' C C8? : :6C:'
B 6 ' >;8> 9' ?' G:' :A: ' ' G:' H > 6' ' >' C:6P
>' ? 86;' G:' G G:B ' H 6 ' ' FG CG' > > 6B' Q>6'
: :A> 6' ' B:A:6 9' :: ' >@ A:' G:' H > 6' B: ' >6;'
B' ; B 6C 9' A B @ :' 7?' >' ; B >6C:' # ::6' ? :B 2'
G:' ?> : > ' K8B:;' C 6B B B' ' G:' ; 6> 9' B86 ; :;'
>6;' @> :;' @ C B4 >6;' G:' @>B:?:6 ' H > ?B' @:> '
G:' 6BC H 6B' ' G:' B>?:' 6 ' FG ' >HH:> B' '
G>A:' @::6' G:' 6>' 86;: ' ' G: CG : '@8 ; 6 B'
>' ' ' %8 G:

N /2 "B#!' 6 ' ' " !' # !' ' T
, C 2,,2F ' : % !' ' U!']' U '
K C & a D ' I %H/2 "B#!' ' H, > &
' >:2#!' @&j ' +E 4>,/!' 6

Fifteen miles from Larsa, in a direction a little north of west, and on the same side of the river, are ruins considerably more extensive than those of either Ur or Larsa, to which the natives apply the name of Warka, which is no doubt a corruption of the original



Ruins of Warka (Erech).

A. Bowariyeh.
B. Wuswas.
C. Parthian ruin.
D. Edifice of cones.

-\ & % &

>HH: > 6 Gh :C :CG ^ G:& :@ :FB
n_0 CG >HH:> B >B & 8 6 G:#C66: 6 : >P
HG C> B B @:C>?: 6 F6 @3 : : !>B CG :#^
>6;G B >HH: > 6 H @>@ 9 C 6 68 6 6 8B:
G: ?: G: >@ C 678:B F>B G:6 C 8H :;
6 > 0 > > 6 FG CG BG>H: G:6>?: A:6
@9 ? ;B > >CG:B G:B:C 6; G B# C :B
G: 8 6B B >6; 6 > . "k "X2 6 \jk \#,2=> R SQ
8 ? :B QE?' G:6:> :B @:6; G: 8HG > :B 6
B : >B @>6 G:9 ?'>6 : 6 > C C :
6:> 9 B D ? :W 6 C C8? : :6C: FG CG B ;: 6:;
@9 G: >C:B >6' :> G: >?H> 6 B ?: H >C:B
9 : : G G A>B ?>BB 86 8 > 6 ? 86;B
6 : B:C :;' @9 668?: >@ : CG>66: B >6;' >A 6:B
:D :6;B ? B :6 9>C BB G: C C8 > BH>C: 6
>; :C 6 FG CG B 6:> 9 6 G >6;' B 8 G >@8 6
> : G: :6;' 8H 6 G: >?H> >B >6;' F:B
G B ?>BB B >' C ?H> > A: 9 H:6 <BH>C: FG: G:
? 86;B > :' BC> : :;' >6;' 6 :N 8:O 4 FG :' 8 B ;:
G: >? S> > 6 9 >' 68?@: ;: >CG:;'
G C B ?> 6 G:B :' >6C :6 @8 ; 6 B @8 6
6:' ; :C 6 (F> ;B G:' :>B (G:' C 9 ?>9 @:
>C:;' C 6 68 8B 9 @9 ?:>6B 8 6:;' :; 7t)Q
? 86;B >6;' H : 9 8 9 G :' ? :B @:9 6;' G:
>?H> 6 G:' ;:B: G:' :> :B G: G G:
8 6B B 8 E " , ' :: 4 G: C 6B 8C 6 B A: 9
8;:' >6;' H ? A: G:' ;> :' B ?:' @8 ; 6 B @: 6
:A ;:6 9 >B :> 9 >B G> G:' ? B >6;:6 B 8CP
8 :B : G: %8 G: :6 : :G#^
D 9 ? :B G:' 6 G F:B # : 8 6B B
6 G:' : >B : 6 @>6 G:' 8HG > :B @8 >

>' A>' / . . ":@ #,@"2:# >a :>## I R' +>>' @,#2' , E! 9 !' A ,>' >G:>?' GE M # 7 & D R
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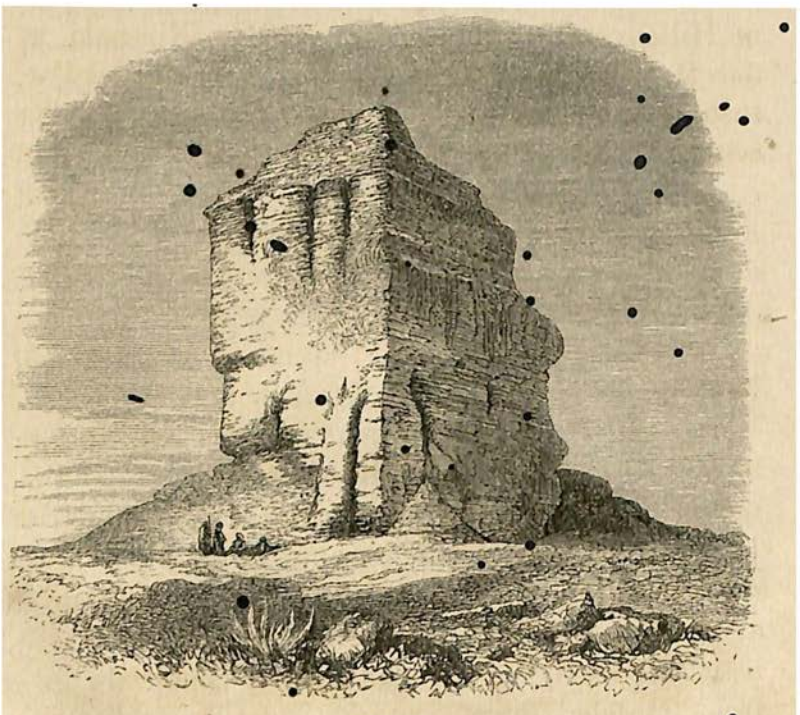
line of the Nil canal, fifteen miles north-west of Niffer; at Delayhim and Bismiya, in the Affej marshes, beyond Niffer, to the south-east; at Phara and Jidr, in the same region, to the south-west and



Akkerkuf.

south-east of Bismiya; at Hammam,[11] sixteen miles south-east of Phara, between the Affej and the Shatra marshes; at Tel-Ede, six miles from Hammam, to the south-south-west; at Tel-Medineh and Tel-Sifr, in the Shatra marshes, to the south-east of Tel-Ede and the north-east of Senkereh; at Yokha, east of

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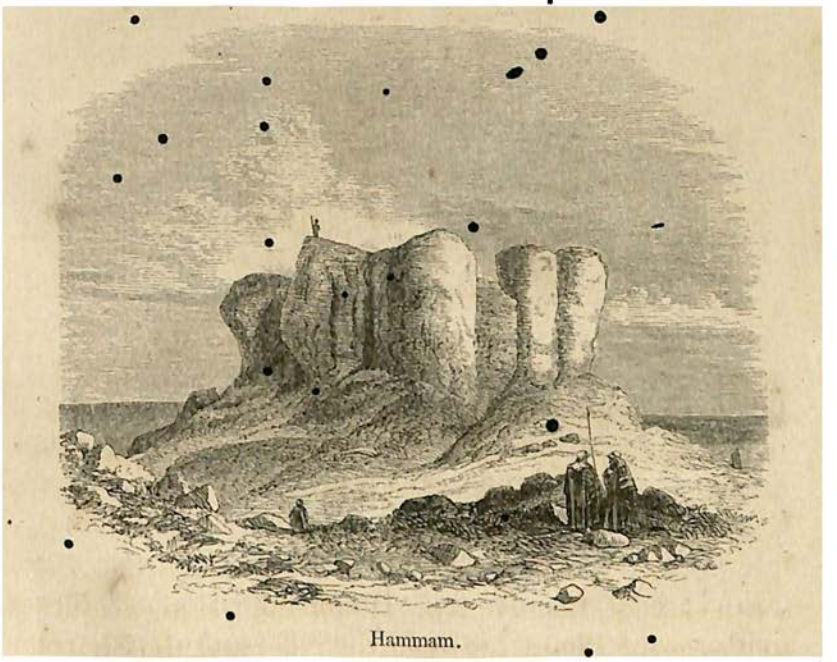
H. Rawlinson regards the existing buildings at Akkerkuf and Hammam as also of the Parthian age, though occupying the sites of earlier Chaldæan cities.

[11] Hammam is thought to be the Gulaba of the Cuneiform Inscriptions (Loftus, p. 113); but this identification is uncertain.

Hamman, and Nuffdyji, north of Warka; at Lethami, near Niffer; at Iskhuriyeh, north of Zibbliyeh, near the Tigris; at Tel Kheir and Tel Dhalab, in the upper part of the alluvium, to the north of Akkerkuf; at Duair, on the right bank of the Euphrates, south of Hilleh and south-east of the Birs Nimrud; at Jeb Mehari, south of the Bahr-i-Nedjif; at Mal Battush, near Swaje; at Tel-el-Lahm, nine or ten miles south of Suk-es-Sheioukh, and at Abu Shahrein, in

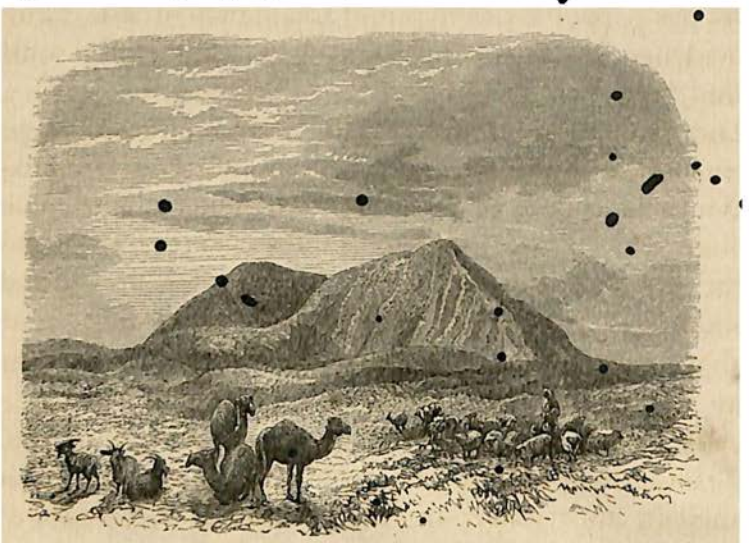


Hammam.

the same neighbourhood, on the very border of the Arabian desert.[1] Further investigation will probably add largely to this catalogue, for many parts of Babylonia are still to some extent unexplored.

[1] See Fraser's *Mesopotamia and Assyria*, pp. 150-155; Ainsworth's *Researches in Mesopotamia*, p. 127 and p. 177; Ross and Lynch, in *Journal of Geographical Society*, vol. ix. pp. 443 et seq.; Loftus *Chaldæa and Susiana*, passim, and *Journal of Geographical Society*, vol. xxvi. pp. 133-144.

This is especially true of the tract between the Shat-el-Hie and the lower Tigris,[2] a district which, according to the geographers, abounds with ruins. No



Tel-Ede.

doubt the most extensive and most striking of the old cities have been visited; for of these Europeans are sure to hear through the reports of natives. But it is more than probable that a number of the most interesting sites remain unexplored, and even unvisited; for these are not always either very extensive or very conspicuous. The process of gradual disintegration is continually lowering the height of the Chaldæan ruins; and depressed mounds are commonly the sign of an ancient and long-deserted city.[3] Such remains give us an insight into the character of the early people, which it is impossible to obtain

[2] This district has been visited by Mr. Taylor, but its marshy character makes it very difficult to explore at all completely.

[3] Loftus, *Chaldæa and Susiana*, p. 251.

?' 8 6B' FG: :' A> 8B' H H8 > 6B' G>A:' > B:;' G: ' >@ CB' 6' B8C BB 6' 8H 6'Q G:' B>? :' BH ' U U G:' C :B G: :' : 8?: > :;' ?>9' 6 ' H: G>HB' 6' > 'Q>B:B' G>A:' :D B :;' 6' G:' G> ;>J>6' H: ;' G:' :A ;:6C:' G G: ' @ > 6:;' C 66:C B' ; B 6C 9' A8 G' <G>'H: ;' 6 9' G:' F 6 ($>@J; 6' ' '&8 ' > > ' ' > B>' :CG' '&8 8 ' > 6:G' ' HG: ' 8 >@>' G ?>;'>6;' G:'H >C:B'6 F'C> :;' @8' >JJ : 6'>6;' :' # ' G:B:'B :' 'F '@:' @B: A:;'F: :'BC> : :;' A: ' G:'FG :' :8 9' ?' G:' :D :?:' B 8 G' > ? B' ' G:' :D :?:' 6 G'>6;' BG F' G:' :D :6 ' c' G:' 6 ; ?' 'G>A:'@::6' G>' >@ A:'>BB 6:;' ;' ^' G:9' > :' C 66:C :;' : G: ' @9' >' B ? > 9' 6'@8 ; 6 ' > >6 :?:6 B'>6;' ?> :P > B' 6' >6 8> :' 6' ?' >6;' 9H:' 'F 6 '>6;' B ?: ?:B' 6'>C >' 6>?:B' '? 6> CGB' G:' ? B' >6C :6 ' >HH> :6 9'>6:' G B:' F> ;B' G:' B 8 G' >' 0 > >' :6 : :G' %8 G: ' >6;' : 4' >6;' G: :' 6' G:' 6: G@ 8 2G ;' ' G:' B:>'FG CG' G:6' H P @>@ 9' :>CG:;' 6 >6;' >B' > ' >B' J :B G: 8 G' G: :' B' B8 C :6 ' :>B 6' ' H >C:' G:' H ? A:' B:>' ' G> ; :>6' H F: ' G:' C>H >' ' G:' FG :' : 6' F>B' > ' B' ' ' &8 #@8' > : F> ;B' @:P C>?:' H8 '>6;' 6> 9' $>@:' '$>@9 6 G:' : G9' ' G> ;B:>' B' BC> C: 9' C ?H : :' F G 8' >' >6C:' > ' G:'C 86 :B'FG CG' >;J 6'8H 6' ' 6' G:'F:B '>HH >CG 6 ' :6: > 9'F G 6' F:6 9' ' G 9'? :B' ' G:'H :B:6'C 8 B:' ' G:' 8HG > :B' B' G:' >@ >6' ;:B: ' C 6B B 6 ' 6' G B' H >C:' ' : > 9'B>6N ' 6 O' >A: B'G>A 6 ' >' :6: >' : :A>P 6' ' >' :F' :: ' >@ A:' G:' %:B H >? >6' H > 6 ' >6;' CC>B 6> 9#' B 6 ' 6 ' ; :B' ' 6 ' :> I

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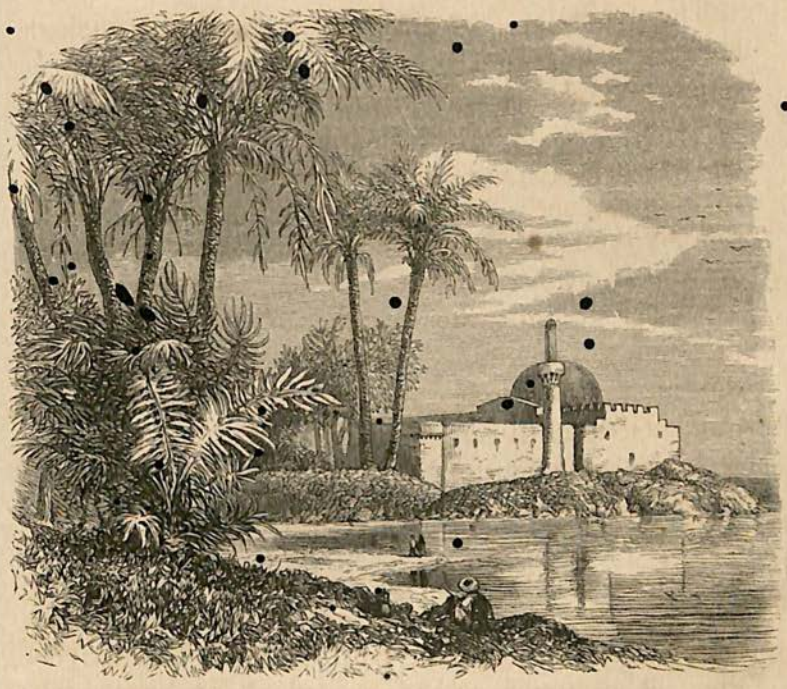

Palms.

able and one of the most ornamental products of the country. "Of all vegetable forms," says the greatest of modern naturalists, "the palm is that to which the prize of beauty has been assigned by the concurrent voice of nations in all ages."[2] And though the date-palm is in form perhaps less graceful and lovely than some of its sister species, it possesses in the dates themselves a beauty which they lack. These charming yellow clusters, semi-transparent, which the Greeks likened to amber,[3] and moderns compare to gold,[4] contrast, both in shape and tint, with the green

[2] Humboldt, *Aspects of Nature*, vol. ii. p. 20, E. T.

[3] Xen. *Anab.* ii. 3, § 15; Philostrat. *Vit. Apollon. Tyan.* i. 21.

[4] Loftus, *Chaldæa and Susiana*, p. 25.

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:> G: 9' @ >6CG:B' @:6:> G' F@ B ' BG>;:' G:9' G>6 '
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;8C: ;' :DC: :6 ' @> :9 ' ? : ' B:B> ? : ' A: : :B ' >6;'
8 B' ' > ' 6;B ' ' F>B' G F:A: ' ; : C :6 ' 6'
A> : 9' ' : :B ' H BB:BB 6 ' BC> C: 9' >69' @8 ' G:' H> ?'
>6;' G:' C9H :BB' ? : >6> :B' > ? > B B H > B'
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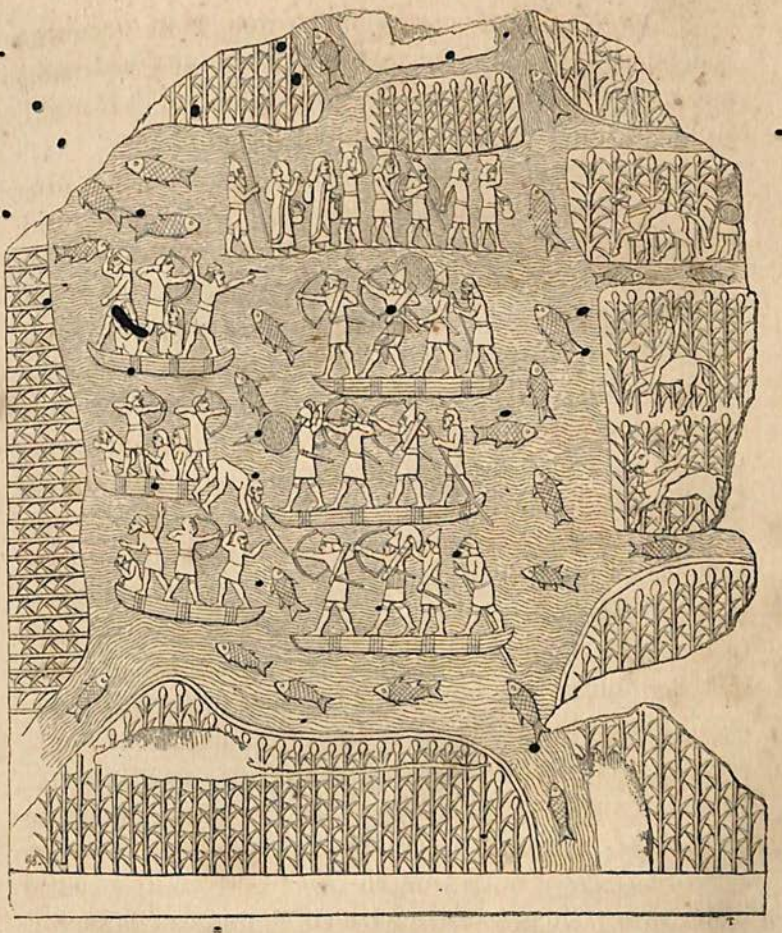

Chaldæan Reeds (from a slab of Sennacherib).

them into arches, to make the skeleton of their buildings; while, to form the walls, they stretch across from arch to arch mats made of the leaves. From the same fragile substance they construct their *terradas* or light boats, which, when rendered water-proof by means of bitumen, will support the weight of three or four men.[4]

[4] Layard, pp. 522-524.

6' ? 6: >' H ;8C B' G> ;e>' F>B' A: 9' ;: C :6 ' 6;::; ' G:' > 8A >?' B' FG 9';:B 8 :' '?: >B' >6;' :A:6' 'B 6:'FG CG' ?8B @:' @>6 ;' 'F>6 :;' ?' G:'>;J>C:6'C 86 :B'Ÿ G:'6: G@ 8 6'H> B' ' >@ >'C 8 ;' 8 6 BG'B>6;B 6:'>6;' G:' ? :';BP >6'@>B> '4FG CG'>HH:> B' 'G>A:'@::6' 6' C' >6BP H :;' CC>B 6> 9' ' G:' G> ;e>6' C :B ^' P @>@ 9'G F:A: ' G:' CG :' ?H > 6' 'B 6:' B @9' G:' A B'FG B:' F> :B F 8 ;' :>; 9' N A:9' ' '> ? B'> 9'H> ' ' G> ;e>' ?' G:' : B'>@ A:' G:' > 8A 8?' G B' F:' 6 F' 'G>A:'@::6' ; 6:' 6' B ?:' C>B:B'4^@8g' G:' :A ;:6C:' ' G:' 8 6B' ?> :B' ' C:>' G>'B8CG' ?H > 6' F>B'A 9' ? :;' G:' G> ;e>6B' 86;' 6';:>8 ' 'B 6:'>'A: 9' : >@ :' ?> : >' 6' G: ' F6'C 86 9'4FG CG'H ;8C:;'>6' 6P :DG>8B @ :' B8HH 9' ':DC: :6'C >9' :>B 9' 6 8 ;:;' 6 ' @ C B' >6;' 6 ' :A:62' :78 6 ' '@:'@> :;' 6' ;:' ' ' ' ' G:'@8 ;: ' DH B8 :' ' G:' G:>' ' G:'B8?? :'B86' G> ;:6:;' G:' C >9'B8 C :6 9' ' ? B'H8 H B:B'FG :'>' :F'G 8 B' 6' >' 6' ?>;:' ' >B' ?' >6;' ; >@ :'U>B' ::B 6:' ':A:6' >6 :' G> ;e>'> > 6'9 : ;:;' A> 8B'<B8@B >6C:B' B8 >@ :' '? > ' > C> : 8B':> GB'>@ 86;' 6' G:'F:B : 6' B ;:' ' G:' 8HG > :B' F> ;B' G:' >@ >6' 6 : 4 ' FG :' :A: 9FG: :'>' :6>C 8B' B ?:' ?8;' B' :>B 9' H C8 >@ :'F CG' G 8 G' ?H: :C'>B'>'C:?:6 'C>6' B: A:' G:' H8 H B:' >6;'G>B' G:' >;A>6 > :' '@: 6 ' > F>9B'>'G>6;' $ 8?:6' B' > B ' H ;8C:;' > : 9' 6' B ?:' H> B' H> C8 > 9' >' & ' FG: :' > :' G:' 6:DG>8B @ :' BH 6 B' FG CG' G>A:O' > :' G>' BH

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' >GBA:!' - % ' ' % ' @ !'D2, D CiK'Q '' 7 ""2!': % ' C '!'D2,' ' 'I !'*' 6' #% !'D2,' ' ' RQ ' G F!' !'I I8' N' O>' #A@,' G>M ' X + # '' ' '9 '!' ? "A' "A>' ##E: @ #'' GB'' ? "A' ' D2,' ' ' ' > ' : ' :' 2"!', O>' $B#" !' ? "A' R - ' ' ' ' ' '"% ' 'T !' W, z#>' 2 ' >D>A P ' U!' Q' :#'' >F " 2 K % N >4:> !' &'A &'D2,' ' 'IUQ' H' 1> '.' 5, : 4A@:F!': ' % 'C '' ')

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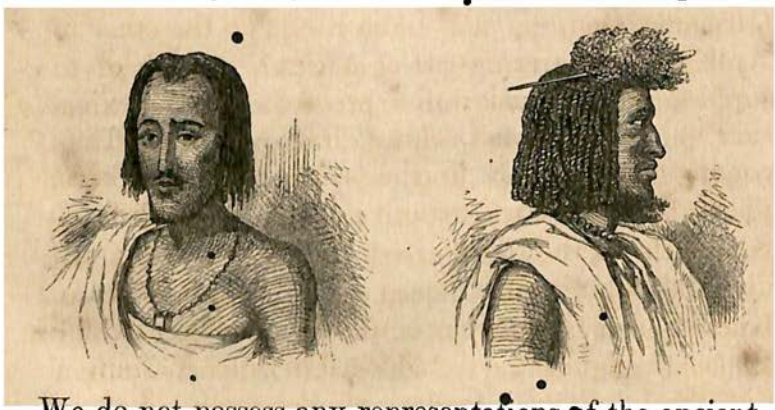
G:' C 6C 8B 6B' G8B' :C ? ? :6 ; : ;' ? B' @9' G:'
C 6B:6 :6 ' H ? A:' >; 6B' ' B ' ? >69' >C:B '
G>A:' > : 9' :C: A:C ? B ' ?H >6 ' >6 ;' 86:DH:C : ;'
C 6 ?> 6' ?' G:' :B8 B' ' 6 8 B C' :B:> CG '
: ' G:' ? B ' :?> >@ :' ' G:' %:B H >? >6'
? 86 ; B' G>;' 9 : ; : ;' G: ' :>B8 :B ' >6 ;' B8HH : ;' G:'
G B C>' B 8 ; :6 ' F G' 68 ? : 8B' >6 ;' C H 8B' ; C8P
? :6 B' @:> 6 'J H 6' G:' G B 9' ' G:' :> ' BB9 >6'
>6 ;' $>@9 6 >6' : ?H :B ' ' F>B' ; : : ? 6 : ;' ' :DH :'
G> ; B:>' H: ' FG: :' ? 86 ; B' ' :BB' H : :6B 6 '
@8 ' B ' ' C 6B ; : >@ :' G: G ' J > : ;' G:' B :B' '
>' 68 ? @: ' ' >6C :6 ' C :B ' G:' :DC>A> 6B' C 6P
; 8C : ;' > ' G:B:' H >C:B ' :BH:C > 9' > ' : ' :6 : :G

' ITIK!' @ F' :24>>F# "2' @:m >' ", @'" " ' "2' (QI ' =:2F' ?@# 2'" @ '
A>' ?@# 2 ,E' @' ; B#A "> ' N M>2M:@L *"A 2 @ !' GB'"@' 2## @ '2:' 2### >@ "
A 4@,,E!P' G>4@B#>' A>!' 2:' "A>' >2 ,>' & &' , >' #@E#K' @' B:@ @ ' ?A2' 42 5'
:> :>#> ">F' GE' A =!' #2 2B: >F' 2:' ^B>:>F' @GE,2 ' :2 =' "A>' =2B "@ '
#2 =>' "=>!' ' *"A 2 @' ' @ 2"A>:!' 42B ":E' >@#"!'2 ' >#2 2"@ = @' '
; '# 7 '+ % ! 34 ! D2, ' D' ' UI K' 42B:#>!' V :> @:> '", G>:"E' "2' :>M@:F'
A>' @F = "# "A@'" "A # D > ?' 42 ":@F 4"# "A>' N' 42 = ,>:P' 2 ' 1> >## @# N = #L
1> ' . ' ! @ F' @,,2?# "A@'" N "A>' "@O> 'P' ?A> >D>:' A # #"@"> => "#
42 = ,>:' 2 ' 2B:' :> #> '" 220' 2 ' 42 , 4" ? " ' 2B:' "A>2: >#!' ?A ,>' @'"
$>: : 7 #P' = B#'", @D>' = >@ '" "2' F45' "A>' #@ = >' " = >' ?2' M 2:>' , MB #" 4'
!C D4' =:2F' ,(E F>#4> '" :2 =' @ = ' " @4"#!' ?2' = @E'# 44B,@">' B 2 ' @ 4 > '"
ABG'"A # N 42 = ,>:P' ?@#!' A>' "A O#!' A #"2:E' @ F' 4 $ 2M:@ AE' = B4A' @'"
F>4> D>F' GE' "A>' :>#> = G,@ 4>' 2 2B:'W ,4 #B:>

0 > >' >6;' %8 G: ' F: :' :? 6:6 9' B8CC:BB 8 '
? 6 ' G: ' G: ' J6:DH:C :;' :B8 B' F>B' G:' ; B '
C ' : 9' 6' G:' ? B ' >6C :6 ' :?> 6B ' '>' 6:F' ?'
' : :CG ' ; : 6 ' :> 9' ?' G:' > : ' $>@9 6 >6'
>6 8> : ' >6;' H :B:6 6 ' >6> :B' F G' G:' :> 9'
I >6 8> :' Y ' 8B >6>' >B' F: ' >B' F G' G> ' ' G:'
B:C 6;' C 8?6' ' G:' CGe ?:6 >6' 6BC H 6B ' 6'
>? ?> C>' B 8C 8 :' G B' >6C :6 ' 2 6 8:' :B:?@ :B#'
; > :C B' X ' G:' 8 >6 >6' >6 9 ' @8 ' B' A ; @8 > 9' B'
H 6 86C:;' ' @:' K' ;:C ;:; 9' 8BG :' ' G H >6' '^
>6;' G:' ? ;: 6' >6 8> :B' ' FG CG' ' >HH >CG:B' G:'
6:> :B ' > :' G:' %> >' ' 8 G: 6' >@ >' >6; ' G:'
> >' ' @9BB 6 >' G8B' C 6 H> > A:' HG 9' B'
86;' ' C 6 ?' G:' ;' >; 6B ' 6' >B : 6'
G H > 2' 6B :>;' ' @: 6 ' G:' O 6A:6 6' ' @:F P
;: :;' 6 >6C: # B' H A:;' ' @:' >' :> 9' FG CG'
G:6C: G' ' F ' @:' G:' :D :?:' ' BC:H C B?' '
78:B 6' 4 >6;' G:' H ? A:' >C:' FG CG' @ :' BF>9' 6'
G> ;e>' H: ' B' ;:? 6B > :;' ' G>A:' @: 6 :;' '
G B' : G6 C' 9H:
G:' ? B ' B 6 ' HG9B C>' CG> >C : B CB' ' G:'
C>6' G H >6B' F: :' G: ' BF> ' C ?H :D 6B '
>6;' G: ' C BH' ' `` :;' G> ' CC ; 6 ' ' &: P
; 8B' G:' B > C' G H >6B' 9: :' :78> 9' ;> ' @8 '
G: ' G> ' F>BQB > G ' >6;' 6 ' `` :; ^' @>@ 9'
6' 6: G: ' C>B:' F>B' G:' C ?H :D 6' FG> ' F:' 86;: P
B >6;' @9' @ >C ' @8 ' > G: ' >' ;> ' :;' @ F6' '
C HH: 4 8 ' FG CG' B' G:' 6 ' ' G:' ? ;: <6' > >B'
>6;' @9BB 6 >6 ' >B' F: ' >B' ' G:' G><@' > ;' % 6 :

I + :' ' *@?, #2 !' '"A>' @B"A2:%# &' 9 &' D2, ' ' ' ITI ' +>>' 2 '"A>'
9 !' D2, ' ' ' UU 2"A>:' A@ F' + :' ' @?, #2 %# @:" 4,>'
' N' A>' G,>' => " 2 #' AB"' 2 >' ' "A>' C ' ' ' %' " % !'
7B#A!' *"A 2 @"' @ ' # @" 4' 7B#A' D2, ' . - ' @:" ' "' @= ' 42= @:>' 2# >5'
>a #"# 2 ,E' ' "A>' =@M @" 2 ' 2 ' "A>' 4 @,,E' *b>O ' aaaD ' Q
">: :>">:#!' @ F' #' " 2 4A ,F' 2 ' "A9 :' I >:2F!' D ' R
F># @ : P' BB 4 !' + # '

Arabs and the Belooches. The hair was no doubt abundant; but it was certainly not woolly like that of the negroes. There is a marked distinction between the negro hair and that of the Ethiopian race, which is sometimes straight, sometimes crisp, but never woolly. This distinction is carefully marked in the Egyptian monuments, as is also the distinction between the Ethiopian and negro complexions; whence we may conclude that there was as much difference between the two races in ancient as in modern times. The African races descended from the Ethiopians are on the whole a handsome rather than an ugly people. Their figure is slender and well shaped; their features are regular, and have some delicacy; the forehead is straight and fairly high; the nose long, straight, and fine, but scarcely so prominent as that of Europeans; the chin is pointed and good. The principal defect is in the mouth, which has lips too thick and full for beauty, though they are not turned out like a negro's.[9]



We do not possess any representations of the ancient people which can be distinctly assigned to the early Cushite period. Abundant hair has been noticed in

[9] See Prichard's *Physical Hist. of Mankind*, vol. ii. p. 44.

' ' * 7 / ' +')' / r !' + *+' R

>6' :> 9' ?@'4 ' >6C ' @ B' 6' @:' > : ' $>@9 6 >6B'
FG ' ?8B ' G>A:' @: :6' ; :BC:6 ; : ;' 6' :> ' H> ' ?'
G:' :> : ' F>B' A: 9'C 6BH C8 8B'4# @8 ' G: F B:' F:'
G>A:#'>B' 9: ' 6 ' ; :C ' :A ; :6C:' F G' :BH:C ' ' G:'
4 G9B C>' CG> <>C : B CB' ' G:' H ? A:2 >C: ^' G> '
G:9' F: :2@ >A:' >6 ;' F> :' 6 :6 8B' :6: : C
'>6 ;' H: B:A: 6 ' F:' G>A:' > ?H :' :A ; :6C: ' FG CG' F '
>HH:> ' 6' > : ' CG>H : B' ' G B' F '4 @8 ' F:' C>6' ; '
:' ? X' G>6' C 6J:C 8 :' Gr ' HG9B C>' >HH:> >6C: '
FG CG' G #A:A: ' F:' ?>9' > 9' B8HH B:' #G>A:' :P
B:?@ : ;' G>' ' G: ' G H >6' 6> 6B

0 G:6' G:' :> 9#' 6G>@ >6 B' ' G> ; e>' Z :' H P
6 86C: ;' ' G>A:' @: 6 : ;' ' G:' B>?:' >C:' F g' G:'
; F: : B' 8H 6' G:' HH: ' : ' G:' 78:B 6' 6> 8 > 9'
> B:B' FG CG' F: :' G:' H ? A:#'H: H : ' >6 ;' FG CG'
G:' C 6 B B3' B# G:' C 86 9' > ' G:' G:>;' ' @:'
: B >6' 8 ' ' @:' : > ; : ;' >B' G:' 6>' >@ ; :' '
G:' 8BG :' >C: ' FG:6C:' ' BH :>;' :>B F> ; >6 ;' F:B P
F> ; ' 6' G:' 6:' G>6 ;' ' 8B >6>' : B >' H: '
> ?>6 >' : ; B >' >6 ;' 6 ; >' B: '4 7H' G:' G: ' '
>@ >2' >6 ;' G:' :>B ' C >B ' ' C>'3 ' > :' F:' '
B8HH B:' G>' G:' ? > 6' H C: : ; : ;' 6' 6:' ; :CP
6' 6 9 (G>' G:' 8BG :B' G>A 6 ' CC8H : ;' G:'
C 86 9' ? ? : ; > : 9' ' G:' B 8 G' ' 9H ' B:6 '
G: 'C 6 :B' > 6 ' G:' B 8 G'C >B ' ' >@ > ' FG:6C:'
G:9' C :H ' 6' 6 ' G:' : B >6' 8 ' CC8H9 6 ' G> P
; e>' >6 ;' 8B >6>' >6 ;' G:6C:' BH :> ; 6 ' 6 ' %: >6'
1 : ?>6' >6 ;' G:' : 6B' @ ; : 6 '8H 6' G:' 6 ; 8B'3
>8B @ :' :>B 6B ?>9' @:' > ; ; 8C: ;' 6' B8HH ' ': G: '
G9H G:B B' G:' Y 8> 6' ' $>@9 6 >' >6 ;' B'
H D ? 9' ' G>' ? 86 > 6' : 6' FG: :' ?>6' ?8B

¸Ć /2 "B@!' 6 ' ' " ! ' +O>,>"2 # A@D>' G>> ' 2B F' '
@GB F@ 4>!' GB'" "A>E'A@D>'B F>:M2 >'
' +>>' ", >' E, F>:#!%$@## ='.' @ F' 2'#4 > " 4'>a@= @" 2
42= @:4' >;2F' I ITQ' I

' -

@>Ao' B' K' 6C :>B:;' >6;' 69 H :;'L' > :' G:'
;'> :' 6' >A 8' ' B' @: J' G:' 6>'C:6 :'
?' FG CG' G:' G:' 8BG :' >C:B' F: :';: A:;'
G:' $ @ C>' :6:> 9' ' G:' B 6B' '&>?' H 6 B'
G F:A: ' G:2 G:' F>94' ' ';: A:B' ? ;' ?'
8BG' 6 ' 8BG' ?' ? ;' 6;::;'K G B' ; C8P
?:6' B::?B' ' F' G:' &>? :B' ?' C> ('
:?HG> C> 9'K' G:' >6;' '&>?L (6' 6:' 6:'> 6'
8 G: 6' >@ >' ' G?>' '$>@9 6>' g' >6 G:'
?' H' G 8 G' >6>>6' 6' 9 >#' G:' >6P
78 9' 'C A B> 6' 6' G:'A> :9' ' G:' :'FG CG'
H :C:;:; '@9' ?>69' C:6 8 :B' G>' :A:6' 'H ? A:'
>;e>' B' >6 G:'> 8?:6'?' >A 8' ' G:' ? >P
6' G>A 6' @::6' ?' F:B' ':>B'4 >6;' G:' ? 68P
?:6 B' >6;' >; B' ' G:' G> ;e>6B' G:?B: A:B'
>:' G 8 G' 'H :B:6' B ?:' C8 8B' 6;C> 6B' '
>6' >B' C>6' 6^' 6' G:'FG :' G: : :' '
B' G B' H @>@ :' G>' G:' >C:' ;:B 6> :;' 6' C HP
8 :' @9' G:'G: 86;:' 7> ;' >6;' >? 6' G:'
:: B' @9' G' :H 69?' '$: 8B' H>BB:;' ?' >B'
C>' @9' F>9' ' >@ >' ' G:' A> :9' ' G:'
8HG > :B' BG 9'@: :' G:' H:6 6' ' G:'G B P
C>'H: ;
H 6' G:' : G6 C' @>B B' G: :' 6;C> :;' G: :' F>B'
> :;' ' F 8 ;' B::?' >' >' A: 9'O:> 9' H: ;' >'
B:C 6;'H @>@ 9' 8 >6 >6' : :?:6 ' FG CG' A: 9' ?P
H >6 9'> :C :;' G:' CG> >C :' >6;' C ?H B 6' '
G:' H: H :' G:' 2 ' '& "' F1' > :' 86;'
' G>A:' @::6' G:' H 6C H>' @:' 86;:' G:' :> ;9'
6 B'> :'C 66:C :;'@9'6>?:' ; >'>6;' 6' B ?:'
;: ::' @9' >6 8> :' F G' >6' ?H >6' H: H :'

K @' aaD 'QI'" 4D' !' R'" 4D ' ' N +>>'"A>'*##@E'2'+ :' ' @?, 5'
' *ME '" #' 4@,,>F' 6 $' ' "A>' #2 !' '"A>' @C"A2:%# 9 !'D2,'
@" D>' #4: " 2 # ' 'UU !' 2">' #C'>F " 2 K

?:6>’C> :;’ 2 33 ’>6;’ , ‘’ :’ > ; >6B’
N>J > :6 9S’ ’&: C C 8B ^’ ’ >B’@::6’C 6J:C 8 :;’
G>’ B’ >C:’ B’ :H :B:6 :;’ @9’ G:’ pH >B >6’
% :B’ ’$: B8B’>6;’ G>’>’>’A: 9’ :? :’ ;> :(’
’-\j+’H @>@ 9 (G:9’ ;:BC:6;:;’ 8H 6’ @:’H>6’
C 86 9’C? 78: 6’ G:’ 6>’ 8BG :’ 6G>@ >6 B’
>6;’ @9’ ;: ::B’ @ :6; 6’ F G’O G:?’ G 8 G’ G:’
8B 6’ :?>6:;’ 6C ?H : :’ ’ G:’ ?:’ ’ @ >G>?’
G:’ >6 8> :’ ’ G:’ :> 9’ 6BC H 6B’ G 8 G’
8BG :’ 6’ B’ A C>@8 > 9’ B’ 8 >6 >6’Y 6’ ?>69’
H 6 B’ ’ B’ >??> C>’B 8C 8 :’ 6’ B’ 8B:’ ’
H B H B 6B’ H> C :B’ >6;’ H 6 ? 6>’ B8 D:B4
>6;’ ’F 8 ;’B::?’ G: : :’BC> C: 9’ ’ >;? ’ ’>’
; 8@’ G>’ G:’ 8BG :B’ ’ F:’ $>@9 6’ ?8B’ 6’
B ?:’F>9’ ’ G:’G>A:’@:C ?O’ ? D:;’F G’>’ 8P
>6 >6’H: H :’ G:’ ? ;:’>6;’ ?:’ ’ @:’C 6?D’
8 :’> :’ ?> : B’> : G:’@:9 6;’ 8’ 6 F :; :’
0 :’ C>6’ 6 9’ 6 :’ G:’ >C’>B’C: > 6’xVJJ;’N GA:’
H :>B:S’ ? 9H G7 :B’>B’ ’ B’>CC ?H>69 6’C P
C8?B >6C:B
2$:B ;:B’ G:B:’ F’ ?>6’ C 6B 8:6 B’ ’ G:’ G>’
;>.>6’ >C:’ G: :’ B’ :>B 6’ ’@: :A:’ G>’@ G’>’
:? C’>6;’>6’ >6’ : :?:6’ :D B :;’ 6’ G:’:> 9’
H H8> 6’ ’ G:’C 86 9’FG CG’8 ?> : 9’@ :6;:;’
F G’ G:’ G: B3’ G:’B8@J:C B’ ’ G:’:> 9’ 6 B’> :’
C 6 68> 9’;:B 6> :;’ 6’ G:’ 6BC H 6B’@9’ @:’ :’
’4 5 6 ‘’FG CG’ B’ 6 : H : :;’ ’?:>6’ K’ G:’
8’ 6> 6B L’ ’ K’ O’ 6’ @ >G>?<B’ ?:’
> >6’ G:’ :> 8’ ’ 8’ 6 B’B::?B’C :BH 6;:6’
’>’ 8 ;#’ : G6 C’ ; A B 6’ 8BG :’ 8 >6 >6’
:? C’>6;’ >6’ G:’ CG :’>8 G 9’>6;’ : G6 C’
H :H 6;: >6C:’@: 6’ F G’ G:’ 8BG :B<’ G:’ >6

C’ +>>’@ ’*##@E’,(E’+ >’#@=>’?: ">:’ ’ ?2:O!’ ’ Q 5 QU’ I#’’>F " 2 K!’
’ "A>’ 2B "A’ D ,B=>’ 2’ "A>’ ,@=>’ ’ A>F2:5,@2=>:!’G2"A’GE’A #’ @=>

[, *') + ' ! '

8> :' > B ' ' G:' :> 9' 6BC H 6B' B' 86;' ' C 6P
> 6' >' C 6B ; : >@ :' : ? C ' >6;' >' B ? > ' >6' : :P
? :6 '4 B ' G> ' ' B' > ' :>B ' H @>@ :' G> ' G:' K' 8 '
6 8:B'L' 6 :6 ; : ;' F: :' 6 ' ? : :' C> ' ; > :C B ' @8 '
; B 6C ' >6 8> :B ' G:' :H :B:6 > A:B' :BH:C A: 9'
' G:' 8 ' :> ' > ? :B' 'G8 ? >6' BH: : C
' F 8 ;' :B8 ' ?' G B' :A : F' ' G:' 6 8 B C'
>C B' >6 ;' G: ' : G6 C' 6 ; C> 6B ' G> ' G:' G> ;> >6B'
F: :' 6 >' H8 :' G8 ' >' A: 9' ? D: ;' H: H : 2' :' G:'
? >6B' U 6' >6C :6 ' >6 ;' G : Y 6 BG' ' ? ; : ?'
8 H:' G : 9 : :' >' K C 8A :' :6 8 ?' ?6 8 ? L'
>' 86 6' ' A> 8B' >C:B' @: F : :6' FG CG' G: :' F>B'
? > : ;' >6 ;' A :6 ' C 6 >B ' ' B' 6 F' :6: > 9'
> ; ? : ;' G> ' B8CG' >C:B' > :' > ? 6 ' G B:' FG CG' H >9'
G:' ? B ' ; B 6 8 BG: ;' H> ' 6' G:' F ;<B' G B 9 '
>6 ;' ? B ' A > 9' > :C ' B' H :BB
0 G' :BH:C ' ' G:' 6>? :' ' G> ;C:>6 ' 86 ; : '
F% CG' 'G>B' @: : 6' C8B ?> 9' ' ; : B 6> :' G B' ? D: ;'
H: H : ' ' ' C8 8B' ' 6;' G > ' 6' G:' 6> A:' ; C8P
? :6 B' ' G:'O:> 9' H: ;' ' ; :B ' 6 ' CC8 '> ' > '
6 ; : : ;' ' B ' >HH:> B' 6' G:' BB9 >6' 6BC H 6B'
' G:' 6 6 G' C:6 8 9' @: :' 8 ' : >' @: 6 ' G:6' 8B: ;'
>B' G:' 6> ? :' ' G ' ; ? 6>6 ' >C:' 6' G:' C 86 9'
>@ 8 ' $>@9 6 ' ' >B' $: B8B ' FG ' C>66 ' :>B 9'
G>A:' @: : 6' 6 >6 ' ' G:' >6C :6 ' >HH: > 6' 'G B'
>C: ' >HH :B' G:' : ?' G> ;>>6' ' G:' H ? A:'
H: H : ^' >6 ;J' >B' C H 8 :' >BB 6B' ' ' G:' G> ; : : B'
>B' :> 9' >B' G:' ? :' ' @ >G> ? ' F :' > :' :6 : ;' '
>BB8 ? :' G ' G:' : ? ' FG:6:A: ' ' C>? :' G B C> 9

@ F' GE' G #',>@F>:#A '2 '"A>' * ,@ = ">#' @ F' +>= " 4' :@4>#' +>>' @' 2">' GE'
2:' +B# @ @ #!' ?2B,F' G>' @' B#A ">' ' + :' ' *@?, #2 ' '"A>' :#" D2,B=>'
F@,!' O M' 2 ' @" 2 #!' & &!' 2 ' "A>' 2 ' "A>' @B"A2:'#' 9 !' D2, ' '
?@ F>: M' ": G>#!' ?2B,F' G>' @' +4E"A!' *##@E' D ']' I!' 2">' ' #>42 F' >F 5'
2:' B:@ @ ' ' : 24A' @ F' =:@ A>,' 2 K ' H
?2B,F' :># >4" D>,E' ,>@F' "A>' : @ ' >:2#B#!') : ' C]' Q!' J!I I!' 34

6 '8B:' B' 6' >C' 86 ' ;:B 6> 6' ' :' :> 9' 6G>@ >6 B' ' G:' C 86 9' : G>HB' G:' ? B'H P @>@ :' >CC 86' ' G:' 6' ' G:' F ;' B' G>' ' ;:B 6> :B' H H: 9' G:' 6G>@ >6 B' ' G:' >6C :6' C>H >' ' ' &8 7 4 ' @: 6' 6' G:' $8 @8' ; > :C' G:' :D>C' :78 A> :6' '. "' FG CG' F>B' G:' H H:' 6>?:' ' G:' % 6' ;'>6;' G> ;e>6B' @: 6' G%' : G: 'K' % 6 F BG HH: B L' ' B ?H 9' K' 6G>@ P >6 B' # G:' F6' ;:; C> :;' '>6;'C> :;'> : ' G:' % 6 L'U' :' G:'2 : ?' K'$> 9 6 >6 L' ' F 8 ;' >' B' G>A:' ;oB 6> :;' B ?H 9' G:' F: : B' 6' G:' C>H >' >6N'F 8 ;' B8@B:78:6 9' G>A:' @::6' :D :6;:;' ' G:' H: H :' :6: > 9

' ; : :6' G: 9' G>B' ' > :' 9:> B' @::6' 8B8P > 9' ?>6>6:;' F G' :BH:C' :' G:' G> ;e>6B' ' G>B' @::6' B8HH B:;' G>' G:9' F: :'>' >C:' :6 : 9' ; BP 6C' ?' G:' :> 9' $>@9 6 >6B (?:6 >6B' >@B' 18 ;Q' ' C >A:B (FG ' C>?:' ; F6' ?' G:' G' 6' > :' G:' G B C>' H: ;'>6;' B: :;' >B' G:' ; ? 6>6' >C:' 6' G:' F: ' %:B H >? >6' A> :9 ^' G C>' > 8?:6 B' ' G:' F:> :B'>6;' ? B'86P B> B >C 9' CG> >C :' F: :' C 6 ;:6 9' >;;8C:;' 6' B8HH ' ' G:B:' A :FB'4# @8' G:9' @ > 6:;'>CC:H P >6C:' CG : 9' 6' >CC 86' ' C: > 6' H>BB> :B' ' C H 8 :' FG CG' F: :' G 8 G' ' ?H 9' G>' G:

Ć 1>#> B#!' 6 $$!' ' $' [' [!' 2:' N >' 44>,2 = ##B# F25'
aa ' I !' @ F!1>#4 | 4X >' ' 9 &' = B#!P p "A@'" >:2F@4A' = MA'" G>'
"# % !' ' J !' JU'" >>:> !' J "A>' >:# @ '$ @!' N'A2=B 4B,B#!P'
%' A %$!' D2,' ' ' IUR'" >L 34' +>>' : 4A@:F%# + ' &' 9 !' '
GBA:!' - % ' ' % ' '!') @ !' D2,' D' ' QJ 5QJU K' '
D2,' ' ' !']">'' ,', , >:!' : =2:>' :> >F' @:MB=> '" ?@#' "A@'" 2'
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: % '6' #% !' D2,' ' 'U !' "A>' @=>#' ?@#' @442:F M!' 2'" "2' +>L
34' :' - @Ba' / &'/, !' = " 4!' GB'" "2' >F25 >:# @' : L
-2,!' ' J IK' ? "A' 22F' :>@#2' 4 ,>#' GB"!' G> M'G@# 4F' B 2' B:>'
^B>#" 2 #' "A>' 42==2' 2 2 42B >2"B:2#' 2#' "2' "A>' 2## G,>' >"E :=5'
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G> ;B:>6B' B #'C 6 B:;' $>@9 6 >' 6' :'B:A:6 '
' : ' C:6 8 9'@: :' G B ' @:' ? B ' ?H P
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6' G B' ;:686C > 6' ' F :' 8H 6' 9 :' B>9B 2>CP
C ; 6 ' ' 8 ' >6B > 6 (K'$:G ;' G:' >6;' '
G:' G> ;B:>6B'4 '5 5 '8 ' '' ' G:# BB9 >6'
86;:;' ' ' G:?' G>' ;F: ' 6' G:' F ;: 6:BB4
G:9' B:' 8H' G:' F: B' G: : ' G:9' >B:;' 8H' G:'
H> >C:B' G: : 4' >6;' G:Y@ 8 G' ' ' 8 64L ' '
>CC ; 6 ' S' $ BG H' F G' K'$:G ;' G:' >6;' ' G:'
G> ;>:>6B' G B'H: H :' F>B' ' 6 ' >CC 86 ' N G:'
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H> >C:B' G: : S' G B' H: H :' G> G' :;8C:;' G: ' >6;'
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G>;' G: :'>' H > 6' ;:C > > 6' G> < ' >' :'@: :'
B> >G<B' ?:' G:' @> ; :>GB' G>;' 6:A: ' :D B :;' >B' >'
6> 6' G:6' ' F>B' B> ;' G:9' @ > 6:;' ' G:'
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G 9' > : F> ;B' F 6 ' G:' >6> 9' 'B ' ?>69'
>B : 6' >C:B' G:9' B8;:;:6 9' BH >6 ' 8H' ' H F: '
&: :' >6 G: ' H>BB> :' ' C H 8 :' F>B' G 8 G' '
G>A:' >6' ?H >6 ' @:> 6 ' 6' G: ' G B 9' K' ''
' ' 5' G:' G> ; :>6B L' B>9B' &>G> 8 ' K' G>'
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G:' @ :>; G' ' G:' >6;' 'H BB:BB' G:' ;F: 6 'H >C:B'
G>' > :' 6 ' G: B' G:9' > :' : @ :' >6;' ; :>; 8 4
G: ' J8; ? :6' >6;' G: ' ; 6 9' BG> ' H C::;' '
G:?B: A:B) G: ' G B:B' > B ' > :'UBF : ' G>6' G:'
: H> ;B' >6;' > :' ? :' : C:' G>6' G:' :A:6 6 '
F A:B') >6;' G: ' G B:?:6' BG> ' BH :>;' G:?B: A:B'
> ;' G: # B:?:6' BG> ' C ?:' ?' > '4 G:9' BG>

9' >B' >6' :> :' > G>B : G' ' :> 4O G:9' BG> ' C ?:' > ' ' A :6C:'4 GM ' >C:B' BG> ' 6 H' >B' G:' :>B ' F 6;' >6;' G:9' BG> ' > G: ' G:' C>H A 9' >B' G:' B>6C ' 6;' G:9' BG> ' BC ' > ' G:' 6 B ' >6;' G:' 'H 6C:B' BG> ' G:' >' BC 6' 86 ' G:?'4 G:9' BG> ' ;: ;:' : X: 9' B 6 G ;'4 G:9' BG> ' G:>H' ;8B ' >6;' > :' L ^ G:' G> ;e>6B ' :C:6 ' CC8H>6 B' ' OF: ' %:B H >? >' >6;' G: :' 6 9' >' ; ? 6>6 ' >C:' :' G: ?>6B' 6' 6 >6;' ' G: ?G> ;B' 6' G' > 9 ' F: : ' 6' >' B8;;:6 ' K' > B:;'8H'L (' : :A> :;' ?' G: ' F' :B > :' ' BB9 >6'YC 6 B B' ' G:?' C 678: 6 ' H: H :' FG CG' G:9' @:C>?:' 86;: ' :@8CG>;6:``>

8CG' F>B' G:' G: 9 ' 6> 9' >;A>6C:;' @9' :B:6 8B ' FG CG ' A> 8B 9' ? ; :;'@9' G: ' F : B ' G: ;' B' 86;' 6' G:' FG :' >B' G:' :B >@ BG:;'A :F ' 86 ' G:' :C:6 ' C86: ?' ; BC A: :B ' ' F>B ' ?' G:' ' >' G: 9' 8 ' ' ; C8 9 ' G:' ?:6 6' ' G:' G> ;e>6B' 6' * @ # >6;' :A:6' 6' :6:B B ^' >B' >' F: 6 F6' H: H :' F>B' 6' C 6 >;C 6' ' G:' B8HP H B:;' :C:6 ' 6' ' Go' >C:' G:' :DH >6> 6' ' G:' @BC8 :' H>BB> :' 6' G:' -. ;' CG>H : ' ' B> >G ' 6' FG CG' G:' G: 9' F>B' ?>6 9' @>B:;' 0>B' >' A> >6C:' F G' G: ' C :> : ' H>BB> :B' ' G:' B>?:' H HG: ' $>@9 6' B' C> :;'@9' B> >G' G:' K' ' ' G:' G> ;e>6B L ^>6;' B' BH :6' 'O>B' >6' >6C :6 ' C 9 ' 6 ' K' G:' 9' ' 6 ; ?B L'<' G:' HH :BB ' ' 6> 6B# G:' H F: ' G>' KB? :' G:' H: H :' 6' F > G' F G' >' C 6 68>' B : L' ^ G:' B' K' G:' >;9' ' 6 ; ?B L ^ I 6;' K G:' @:>8 9' ' G:' G> ;::B<' :DC: :6C9 L' ' G:' G> ;e>6B' > :' G8B ' 6' B> >G ' >B

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Ñ #@ @A' a,D ' I' @ F' Q ' G F ' a ' IT'

[\ *‘) + ‘ ‘

: B:FG: :‘ :6: > 9‘ 6‘ C H 8 : G:‘H: H :‘ ‘$>@9P 6 >‘ G:‘ : ?‘ K‘$>@9 6 >6B‘U‘ 6 ‘ @: 6 ‘ 8B:;‘ @9‘ G ?4 $>@9 6‘ B‘ G: ‘CG : ‘C 9‘6 ‘ 6:‘FG CG‘ G:9‘ G>A:‘C 678: :;‘>6;‘ CC8H : ; ‘@8‘ G: ‘K‘;>8 G : ‘L‘ (K‘ G:‘@:>8 9‘ ‘ G: ‘ :DC: :6C9‘4L‘ >6;‘ B ‘ > ‘ G:‘ >6 78 9‘ >6;‘ 9‘ FG CG‘ B‘ >BB 6:;‘ # $>@9 6‘ @: 6 ‘ 6:C:BB> 9‘ 6‘ B> >G<B‘ ? 6;‘ ‘ G:‘ G> ‘ ;>:>6B‘ G:‘A: B:‘ G: : :‘6‘ G:‘ -. ;‘CG>H : ‘ 6‘FG CG‘B ‘ ?8CG‘ G>B‘ @::6‘@8 ‘C>6‘>‘? B‘ : : ‘ B ?:‘ :?H > 9‘ ;:H :BB 6‘ ‘ G:‘ G> ;>:>6B‘ FG CG‘ ?>;:‘ >‘ :> : ‘ ; B >C:‘ ‘ 9 :‘ G>‘BG:‘ BG 8 ;‘@:‘C 678: :;‘@9‘ G:?‘ > 6‘ G:‘ G: 9‘ ‘ :B:6 8B‘ ‘ 6 ‘ >CC 86‘ ‘ G:‘ 6> A:‘ G B >6‘ FG ‘ B‘N6:D‘ ‘ C H 8 :S‘ G:‘@:B‘ : > 9‘>8 G 9‘ ‘ G:‘ >C B‘ ‘ $>@9 6 >6‘ G B 9‘ $: B8B‘ 6 ‘ 6 9‘B> ;‘6 G 6 ‘ ‘>69‘6 8D‘ ‘>6‘> :6‘ >C:‘ 6 ‘ $>@9 6 >‘ BG 9‘ @: :‘ G:‘ ?:‘ 2 :@8CG>;P 6:``> ‘ @8‘ H 6 :; 9‘ ;:6 :;‘ G:‘ G> ; :>6B‘ ‘ G>‘H: ;‘F GZ‘G:‘H ? A:‘H: H :‘ ‘G:‘C 86 9‘ ‘ C>6‘ ‘ @‘ B> ;‘ G>‘ G:‘F 8 ;‘ ; ‘ G B‘ 6‘ 6> 6>‘A>6 9‘ ‘>A ;‘ G:‘C 6 :BB 6‘ ‘>‘C 678:B ‘ ‘ G:‘ >;? B‘ 6 ‘ :F:‘ G>6‘ G ::‘ C 678:B B‘ ‘ $>@9 6‘>‘ %:; >6‘>6‘ >@ >6‘>6;‘>6‘ BB9 >6#‘ G8B‘:A:6‘>H> ‘ ?‘ G:‘? 68?:6 B‘ G:‘ G: 9‘6‘ u8:B 6‘F 8 ;‘ @:‘ 86 :6>@ :‘ ‘ :> 9‘ 6> :;‘ 6‘ 6 8 B C‘UBH:C8 > 6B#‘ FG CG‘ 8 6‘ 8‘ ‘ G>A:‘ @::6‘> : G: ‘? B > :6

G:‘J 6‘>8 G 9‘ ‘ C H 8 :‘>6;‘ ‘ : B8B‘F ‘ H @>@ 9‘@:‘>CC:H :;‘>B‘B8 $C:6‘ ‘J8B 9‘ G:‘>; HP 6‘ ‘>‘ : ?‘FG CG‘ ‘ 6 ‘ B C 9‘CQ :C ‘ B‘ 9: ‘ >? > ‘ ‘ 8B‘>6;‘FG CG‘F ‘ C 6A:6 :6 9‘B: A:‘

‘H‘Ĉ >:2#B#!‘):‘ I I‘@ F‘ I ^4A@:F!‘ + ‘ % ‘9 ‘’‘ ‘) J Ĉ +>>‘ >GBA:!‘ - % ‘ ‘ J @ !‘D2,‘ D‘ !‘QJ !‘QJU % ‘9 ‘!‘D2,‘ ‘ ‘ !‘ 2">‘@ F

G:' C > B:' >@ C# G:' G ? : 9' >6 ' BG>H:6' 6B 8P
? :6 B' >B' G:9' H :B:6 ' G: ? B: :B' ' 8 ' 6 C:'
G:' : ? > 6B' ' G:B:' >6C :6 ' 6> 6B'4 @8 ' G:9' > :'
:> 9'F G : ' ' 8 '>; ? > 6' G>6' ' 8 ' ; C g : '
G:' B ' 6A:6 B' '>69'> ' > :' > ? 6 ' G:' :> :B '
@:6: >C B' ' G: ' >C:'4 >6;' G:' G ;' B :H' FG CG'
G:9' >G:' ?' G:' 86 6 F6' ' G:' 6 F6 ' ?'
@ >6 ' 6 >6C:' ' ; BC A: 9 ' B' :78> ' ' ? >69'B :HB'
' B8@B:78:6 ' H :BB ' K' G:' C ? ? :6C: ? :6 L'
B>9B' B : ' K B' ? :' G>6' G> ' ' G:' FG : L' '
G B' B' >' B 86; 28; ? :6 '4 >6;' ' F ' @:' F: ' G> '
F:' BG 8 ;' @:> ' ' 6' ? 6;' ;8 6 ' G:' :A : F ' 6'
FG CG' F :' > :' >@ 8 ' ' :6 : ' ' G:' >6 8> : ' F>6 P
6 ' 8B: 8 ' >6;' 6> ? :6 > ' > ' BC :6C: ' >6;' : >P
8 :' ' G:' G> ; e>6O' K' G:' CG ;' B' > G: ' ' G:'
? >6 L' @ G' 6' G:' 6; A ; 8>' >6;' G:' BH:C :B'4 >6;'
G:' G8 ? >6' >C:' > ' G:' H :B:6 ' ;>9' :B' 86; : ' 6 6 :'
@ > 6B' ' G:' :6 8B' >6;' 6; 8B 9' ' :> 9' > :B

[+ *') *+ ' * '6

B 6 >'>6;' G:'>6C :6' >6 8> :' ' 9H ' 6' ?>69'
C>B:B' ' ? :' :B:?@ :B' G:' J BG' > > ' >6;'
%> 9>' N 8 >6 >6S'; > :C B4' FG :' 6' B ?:' ' H :P
B:6 B' :? C' >6;' 6' G: B' >6' > 6 :B' G B'
F '>HH:>'B8 C :6 9' ?' G:' F 6' B)(

G '2:'G $!'N'12F P' 2= @:>' B:O #A' &
/ !' N @"A>: P' 2= @:>' B:O #A' &' ' #' N @"A>:P' '"A>'
0 2,@ "#@' GE## @ K'F @,>4"
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!' \'@' E2B"A!P' N'@' #2 P' 2= @:>' "A>' @ %$' 2' "A>' @:"A @ #'
B:@ @M#K!' ?A2' ?@#' "A>' :2? ' : 4>'
G '2:' : $!' N'@',@FE P' 2= @:>' /@" ' $ '):> 4A' $!' 2B:'
N F@=>P'
!' \'@'A2B#> P' 2= @:>'@ 4 > '* ME " @ ' !'@ F' B:O #A' &
]* !' \'@' M@"> P' 2= @:>' B:O #A'@ &'^
* !' \'@':2@F P' 2= @:>' 1@,,@'@ &
!' N'@'"2? P'
' N'@': D>: P' 2= @:>'"A>':22'* ' ' B#!' :@a>#!' :=@4@,4#!' 34'
!' N'@5=2B "@ P' 2 " @:>' : @ ' !'@ ' :@G 4X2J@X'
* !' N'"A>'>@:"A P' 2= @:>' 1:>>O' ' '9K
* !' N'@'42B ":E P
" !' N'"A>'#B P
!' N @ #AP 9K
* !' N'@'A2:#> P' 2= @:>' , F' !'@ F' :@G 4' &
& ' N'M2,F P' 2= @:>'1@,,@' ?>: >' S1" #+' =>@ #'@,#2'N :>FP'@ F'
N'"A>'>D> M PC
: !' N'# ,D>:!P' N'?A ">!P' N'"A>'=2: M P' 2= @:>' M@B' ! M:>'
&
= !' N'42 >: P' 2= @:>' :@G 4' &
9 !' N' :2 P' 2= @:' :@G 4' &
= @ !' N'"A>'A>@F P
* !' N'"A>'A@ F P
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+ !' N'"A>'>@: P'
!' \'M:>@" P' 2= @:>'1@,,@' &
!' N', "",> P' 2= @:>'12 M@' '@ F'1@,,@' &
* !' N' 2?>: B, P
_ !' N' :#" P
) !' \'=@ E P'H' 2= @:>' M@B' $ '2:'$ &
!' N'"2'F2 P' 2= @:>'+@ #O: '*@ !' H
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G:' >?? >' ' G B' >6 8> :' B' B 'G8'A: 9' :'
*J9 F6' G:' C 6J8 > 6B' ' A: @B' > :' B> ;' ' @:'
A: 9' 6 C> :'>6;' ; C8 '>' :>'A> : 9' ' A: @>

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?Bʻ @: 6 ʻ @ > 6: ;ʻ ?ʻ @:ʻ B>?:ʻ ʻ >Bʻ 6ʻ &:@ :F ʻ@9ʻ?:>6Bʻ ʻH : ?> A:Bʻ 8?@: ʻ >6;ʻ H: B 6ʻ 6ʻ @:ʻA: @Bʻ> :ʻ?> :;ʻ@9ʻB8 D:B(@:ʻ G ;ʻ H: 6ʻB6 8>ʻN?>BC8 6:Sʻ @9ʻ ʻ ʻ "6ʻ @:ʻ G ;ʻ H: B 6ʻH 8 >ʻ@9ʻ 6

@:ʻ>CC8B> A:ʻC>B:ʻ 6ʻ6 86Bʻ Bʻ ?> :;ʻ@9ʻ>ʻH B ʻ J.,B 6ʻ "ʻ>Bʻ 6ʻ & 6;8B >6 ʻ @:ʻ H8 >ʻ ʻH ʻ 6 J6Bʻ>6;ʻB8@B >6 A:Bʻ Bʻ ?:;ʻB ?: ?:Bʻ@9ʻ :;8P H C> 6ʻ G8Bʻ ʻ Bʻ K'G ? Lʻ FG :ʻ ʻ B#K' G:?ʻ >6;ʻ ' ! "ʻ = "ʻ- "ʻB::?ʻ ʻ@:ʻH 8 >ʻ ?Bʻ ?ʻ ' "ʻ = "ʻ>6;ʻ-

ʻC8 8Bʻ>6 6>9ʻ CC8 Bʻ 6ʻ @:ʻ;:C :6B 6ʻ ʻH P 6 86B#ʻ 0 G:6ʻ>@C ?H>6:;ʻ@9ʻ @:ʻ H :H B 6ʻ "ʻ K'F GLʻ G: :ʻ Bʻ>ʻ ! ʻ ʻ @:ʻH :H B 6ʻ>6;ʻ @:ʻ H 6 86Bʻ> :ʻ H>C:;ʻ @: F::6ʻ J Bʻ Bʻ >6;ʻ B:C 6;ʻ B9 >@ :ʻ4 : ʻ ?# K'G ?ʻL'(ʻ 6 6 "ʻ K'F Gʻ G ? Lʻ G Bʻ > :Bʻ H>C:ʻ 6ʻ :A: 9ʻ68?@:ʻ>6;ʻ H: B 6ʻ>Bʻ @:ʻ F 6ʻBCG ?:ʻF ʻBG Fʻ)(

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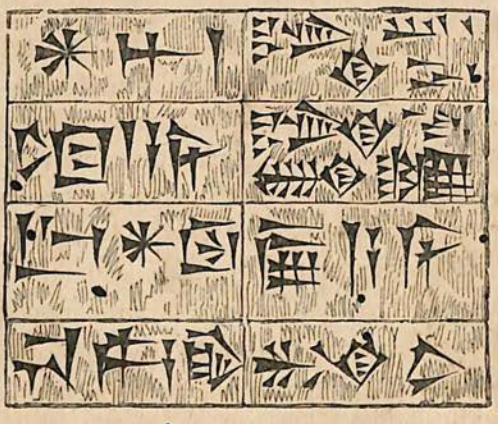
,B:	@ $ ʻ	@ [ʻ	@ ʻ
	? "Aʻ B#K	? "Aʻ E2BK	? "Aʻ"A>=K

$ʻ @:ʻ ?> 6ʻ ʻ @:ʻB:C 6;ʻH: B 6ʻH 8 >ʻ ;:B: A:Bʻ > :6 6ʻ @:ʻ F ;ʻ > 6 ʻ Bʻ C:> 9ʻ C ?H B:;ʻ ʻ @:ʻ F ʻ : :?:6 Bʻ> "ʻ K'G::Lʻ>6;ʻ "ʻ 1ʻ G:?ʻL(Bʻ G>ʻ6B :>;ʻ ʻG>A 6 ʻ>ʻF ;ʻ ʻK'9 8Lʻ @:ʻ @> ;B:>6Bʻ:?H 9:;ʻ ʻ ʻ @:ʻH: HG >B Bʻ K' G:: ʻ @:?ʻLʻ G: :ʻ :ʻ ʻ @: :A:ʻ6ʻ 6 F6ʻ >6 8> :ʻ FG CGʻH :B:6 Bʻ ʻH> > :ʻ>6 ?>9

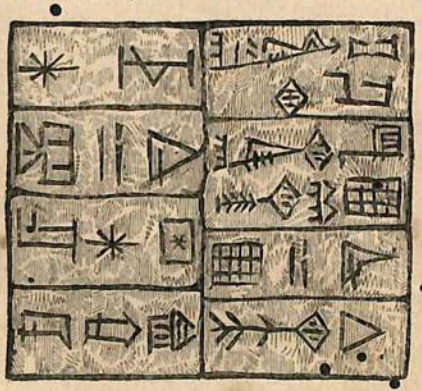
8CGʻ> :ʻ @:ʻCG :ʻ 6 F6ʻ :> 8 :Bʻ ʻG Bʻ 6 : :B 6ʻ @8ʻ; C8ʻ ?ʻ ʻBH::CGʻ ʻBH:C ?:6ʻ?>9ʻ6 Fʻ@:ʻ A:6ʻ ʻ @:ʻ? ;ʻ 6ʻFG CGʻ ʻF>Bʻ F :6ʻ ? 6

Cʻ A>:>ʻ #!ʻ ʻG>, >D>!ʻ@ʻ >@:ʻ @:@,,>,ʻ"2ʻ"A # >4B, @: "Eʻ ʻ"A>ʻ #" @O

the earliest of the monuments hitherto discovered are a set of bricks bearing the following cuneiform inscription :—



This inscription is explained to mean :—"Beltis, his lady, has caused Urukh (Orchamus), the pious chief, King of Hur, and King of the land (?) of the Akkad, to build a temple to her." In the same locality where it occurs,[2] bricks are also found bearing



evidently the same inscription, but written in a different manner. Instead of the wedge and arrowhead being

[2] The bricks in question were found at Warka, the ancient *Huruk* or Erech. (See Loftus, *Chaldæa and Susiana*, p. 169.)

‘ - ‘ 0 1‘ ‘ " *‘ / r +C +"

G:‘ : : ? :6 B‘ ‘ G:‘ 6 ‘ G:‘ FG :‘ B‘ ? : ;‘ @9‘ B > G ‘ 6:B‘ ‘ > ? B ‘ 86 ?‘ @ C C6:BB‘ >6 ;‘ G:‘ ?H :BB 6‘ B: : ?B‘ ‘ G>A:‘ @: :6‘ ?>; :‘ @A‘ >‘ B 6 :‘ B >6gH

G B‘ ? ;o‘ ‘ F 6 ‘ FG CG‘ G>B‘ @: :6‘ C> : ;‘ F GP 8 ‘ ?8CG# :>B 6‘ K‘ G:‘ G : > C L‘ ^>6 ;‘ ‘ FG CG‘ F:‘ G>A:‘ @8 ‘>‘ B ? > ‘68 ? @: ‘ ‘ 6B >6C:B ‘G>B‘ C 6 ? : ;‘ >‘ C 6J:C 8 :‘ 6> 9‘ B8 :B : ;‘ @9‘ G:‘ :> 9‘ C86: P ?‘ F 6 ‘ B: ‘ G> ‘ G:‘ CG> >C : B‘ F : :‘ > ‘ B ‘ G:‘ H C 8J<:B‘ ‘ @J:C B ‘ 6‘ B ? :‘ C>B:B‘ G C‘ H C >‘ :H :B:6 > 6‘ B‘ A: 9‘ H > 6‘ >H ;‘ H> H>@ : ‘ ‘ 6P B >6C:‘ G:‘ K‘ ; : : ? 6> A:‘ L‘ #‘> ; (G:‘ B 6 ‘ G> ‘ B ‘ FG CG‘ ?> B‘ G> ‘ G:‘ 6>? :‘ ‘ >‘ ;‘ B‘ >@ 8 ‘ ‘ F ‘ 6‘ G B‘ :> 9‘ :C 6:> ‘ F 6 ‘ B‘ (‘ >6 : G >9: ;‘ B > ‘ G:‘> CG> C‘ C86: ?‘ : :HB‘ C B: 9‘ ‘ G B‘ 9H: ‘ ? : : 9‘ CG>6 6 ‘ G:‘ 6:B‘ 6 ‘ F: ; :B G8B‘ ‘ FG :‘ G:‘ > : ‘ C86: ?‘ B ‘ 86 :B G:‘ @ 78:‘ F: ; :B‘ 6‘ 6:‘ >6 ;‘ G:6‘ ? B G: ?‘>B‘ 866:C:BB> 9‘ : > 6 6 ‘ 6 9‘ G:‘ H: H:6 ; C8 > ‘ >6 ;‘ G:‘ G ` 6 >‘ 6:B‘ > 6 ‘ G:‘ CG> >C : :H :B:6 6 ‘ G:‘ F ;‘ K‘ G>6 ;‘ L‘ B‘ 6‘ G:‘ :C 6:> F 6 ‘ 6‘ G:‘ > CG> C‘ C 8 6 : ? ‘ 6‘ G:‘ > : ‘ C86: ?‘ ‘ G:‘ A:‘ 6:B‘ > : F> ;B : ; 8C: ;‘ ‘ 8 S‘ C :> 9‘ :H :B:6 ‘ G:‘ G8 ? @‘ >6 ;‘ G:‘ 8 ‘ 6 : B ‘ ‘ ‘ WG:‘ CG> >C : ‘ ; 6> 9‘ :H :B:6 6 ‘ K‘ > G 8B:‘ L‘ ‘ 9‘ *‘ B‘ :A ; :6 9‘ ? : ;‘ ?‘ G:

+- & ' ' * &); ' -

6>' ! !' :' 86; H >6' J!2 >' 8B:'4 >6;' G>

;:6 6 ' K G:' B86L' n# ' C ?:B' ?' f ' G 8 G'

' >6;' G:' 6>2' f,' @: 6 ' G:' @:B

:H :B:6 > 6' G>' B > G ' 6:B' C 8 ;' A:' ' G:' B86' 6' G:' C>B:' ' "K'>' > : L' nF:' G>A:'6 ' G:' 6>' I ;:B 64 @8' F:' ?>9' B::' H B ' @> B' 36;

G 6 :B' 6' ' 9 ' G:' ; 6> 9' CG> >C : '

6 G: ' C86 8B' :D>?H :' ' G 'H C >' 6'

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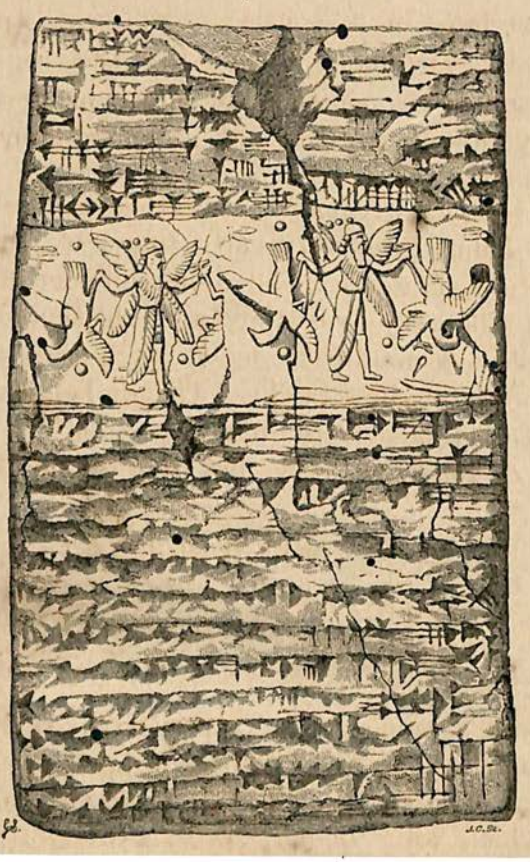

moist clay, upon which their contents have been again inscribed, so as to present externally a duplicate of the writing within; and the tablet in its cover has then been baked afresh. That this was the process employed is evident from the fact that the inner side of the envelope bears a cast, in relief, of the inscription beneath it. Probably the object in view was greater security—that if the external cover became illegible, or was tampered with, there might be a means of proving beyond a doubt what the document actually contained. The tablets in

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!) *‘ G:‘ > B‘ FG CG‘ G:‘ B‘ G H C‘ B: : B‘ 6‘ G:‘ BG :B‘ ‘ G:‘ : B >6‘ 8 ‘ : G: ‘ @ 8 G ‘ F G‘ G: ?‘ ?‘ G: ‘ ?: ‘G ?:B‘ ‘A: 9‘:> 9‘ 6A:6 : ;‘ 6‘ G: ‘ 6:F‘ >@ ; : ‘Q 8B ‘ 86; 8@ : ; 9 ‘G>A:‘ @: :6‘ G:‘ F ‘ FG: :@9‘ G:9‘ F: :‘ :BH:C > 9‘ CG> >C : B:;‘< 6‘ G:‘ ?:‘ ‘ G: ‘ :> :B ‘ H F: (> CG :C 8 :‘ >6;‘ > C8 8 :‘ G> ;B:>‘ B‘ 6 ‘ >‘ C 86 9‘ ; BH B 6 ‘ ?:6‘ ‘ 6 ?>; C‘ G>@ B‘ G:‘ H ;8C A:‘ H F: B‘ ‘ G:‘ B ‘ F 8 ;‘ > ‘ 6C:‘ @ 8; :‘ G: ?B: A:B‘ 6‘ G:‘ 6 C:‘ ‘ G:‘ 6:F‘ C ?: B‘ >6;‘ F 8 ;‘ :?H ‘ ‘ C8 A> 6‘ >6;‘ H: ?>6:6C9‘ ‘ :B ; :6C: ‘ ‘ :‘ ? ? >6 B‘ C>?:‘ @9‘ B:>‘ ‘ >6;‘ B: : ;‘ B ‘ 6‘ G:‘ >C ‘ ? ? : ; > : 9‘ @ ; : 6 ‘ 8H 6‘ G:‘ 8 ‘ >B‘ B: : ?B‘ ‘ G>A:‘ @: :6‘ G:‘ 6 6‘ ‘ $: B8B ‘ G: ‘ :> :B ‘ >@ ; :B‘ ?>9‘QG>A:‘ @: :6‘ ‘ G> ‘Q ?H :‘ CG> >C : ‘ FG CG‘ C>6‘ :A:6‘ 6 F‘ G:‘ F 6:BB: ;‘ 6‘ G:‘ :J‘ >6;‘ % 6 : ‘ ?> BG:B (G> ‘ B‘ ‘ B>9 ‘ : : ;‘ C>@ 6B‘ B8HH : ;‘ @9‘ G:‘ > ‘ B : ?B‘ ‘ G:‘ F 6 ‘H >6 B‘ @:6 ‘ 6 ‘> CG:B‘ >6;‘ F> : ;‘ F G‘ ?> B‘ C ?H B: ;‘ ‘ > B‘ ‘ B: ; # & B:B‘ ‘ G B‘ ; :BC H 6‘ >B ‘ ‘ 9‘ ‘ 9‘ 9:> B ^‘ >6;‘ F 8 ;

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6‘ H C:BB‘ ‘ ? : ‘ G F:A: ‘ >‘ :BG‘ A> ‘ F 8 ;‘ @:‘ : ‘ CG :C 8 : ‘ >B‘ G>B‘ @: :6‘ F: ‘ @B: A: ; ‘ G>B‘ B‘ ? 6 ‘ 6 ‘ 6‘ 6> 8 :‘ 6 9 ‘ @8 ‘ 6‘ : 6 2#‘ G:‘ C ? ? 6‘ F BG H‘ ‘ ;‘ :78 :‘ : ? H :B4 >6 ;‘ ‘ B‘ B 6‘ ; :B : ; ‘ ‘ A:‘ ‘ G:B:‘ B>C : ;‘ : ; C:B‘ >‘ >6 ; :8 ‘ >‘ ; 6 9 ‘ >6 ;‘ >‘ H: ? >6:6C9‘ C :BH 6 ; 6 ‘ @‘ G:‘ 6> 8 :‘ ‘ G:‘ $: 6 ‘ F BG HH: ;‘ 6‘ G: ? ‘ &:6C:‘ 6‘ ? B ‘ C 86 :B‘ :C 8 B*@‘ B‘ G> ;‘ ‘ B 6: ‘ >B‘ G:‘ ? > : > ‘ ‘ :> :B ‘ B :6 G‘ >6 ;‘ ; 8 >@ 94 >6 ;‘ @9‘ B‘ ? :>6B‘ @8 ; 6 B2> :‘ > B: ;‘ FG CG‘ B: : ?‘ > ? B ‘ ‘ :>CG‘ G:‘ G:>A:6‘ FG: : ‘ G:9‘ F 6:BB ‘ 6‘ $>@9 6 > ‘ >B‘ ‘ G>B‘ @: :6‘ > :> ; 9‘ @B: A: ; ^‘ G B‘ ?> : > ‘ F>B‘ :7 : 9‘ F>6 6 ‘ F : :‘ F G 6‘ G:‘ ? B‘ ‘ G:‘ > 8A 8 ?‘ F>B‘ >‘ 78> 9‘ ‘ @:‘ 86 ; 4 >6 ;‘ G 8 G‘ > ‘ 6 ‘ A: 9‘ :> ‘ ; B >6C: ‘ 6‘ G:‘ >P @ >6‘ @ ; : ‘ >‘ C > B:‘ B>6 ; B 6:‘ ? G ‘ G>A:‘ @: :6‘ @ > 6: ; ‘ 9: ‘ 6‘ H ? A:‘ ? :B ‘ @: :‘ ? >69‘ C>6> B‘ F: : ?>; : ‘ G ‘ ; C8 9‘ ‘ >6BH 6 ‘ G B‘ F: G 9‘ B8@B >6C:‘ >C BB‘ G:‘ B ‘ >6 ;‘ `9‘ B # ‘ G:‘ H > 6‘ F 8 ;‘ 6:C:BB> 9‘ G>A:‘ H :A:6 : ;‘ B‘ > ; H 6‘ :6:P > 9 ‘ ‘ 6 ; : : ; ‘ >69FG: : ‘ :DC:H ‘ 6‘ G:‘ ? ? : ; > :

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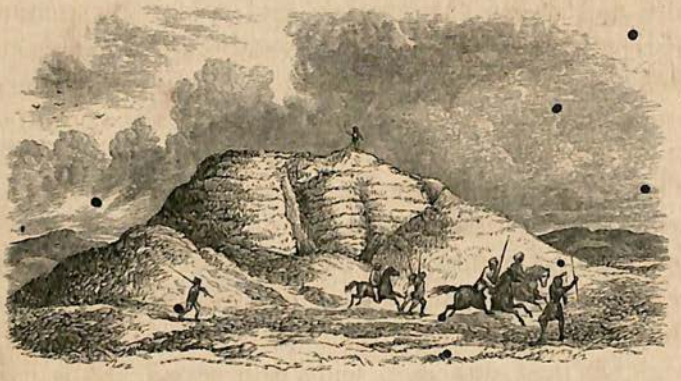
same year, and the third by the same traveller in 1855.



Bowariyeh.

The Warka ruin is called by the natives Bowariyeh, which signifies "reed mats," in allusion to a peculiarity, already noticed, in its construction. It is at once the most central and the loftiest ruin in the place. At first sight it appears to be a cone or pyramid; but further examination proves that it was in reality a tower, 200 feet square at the base, built in two stories, the lower story being composed entirely of sun-dried bricks laid in mud, and protected at intervals of four or five feet by layers of reeds, while the upper one was composed of the same material, faced with burnt brick. Of the upper stage very little remains; and what remains is of a later date than the inferior story, which bears marks of a very high antiquity. The sun-dried bricks, whereof the lower story is composed, are "rudely moulded of very incoherent earth, mixed with fragments of pottery and freshwater shells," and vary in size and shape, being sometimes square, seven inches each way; sometimes oblong, nine inches by seven, and

?' G :' ' G C:#> ;' >' G> ' 6C :B' G C 7' G:' _J :' H :B:6 'G: G ' G:' @8 ; 6 ' B' :B ?> :;' > ' " , ,' :: ' >@ A:' G:' :A: ' ' G:' H > 6 ' B' B8 ? ? ' :DC:H ' FG: :' B ?:' B G ' :?> 6B' ' G:' B:C 6;' ' C 6B 8 :' >6' 6 : 8H 6 ' B' K'H: :C 9' > L' >6;' H @ @ 9' C 6 68:B' A: 9' ?8CG' 6' G:' C 6; 6' 6' FG CG' ' F>B' FG:6' G:' F: ' B > :' F>B' B ' G8 ' G B' B > : '@: 6 'G8 ' 'C 8;:' @ C ' F>B' 6 H:BB> 9' F:> '4 ' B' G: : :' B8HH :;' @9' 8 ' ?>BB A:' @8 :BB:B' ' @> :;' @ C ' :>CG' H >C:;' :D>C 9' 6' G:' C:6 :' ' 6:' ' G:' B ;:B ' >6;' C> :;' ' >@ 8 ' 6: ' G ;' ' G:' G: :J ' >CG' @8 :BB' B' 6 6: : :6' :: ' G G ' B D' :: ' 6:' 6CG' F ; : ' >6;' B:A:6' >6;' >' G> ' :: ' 6' ; :H G' 4 >6;' :>CG' B' ; A ; : ;' ; F6' G:' ? ; ; :' @9' >' :C: ; 6 ' BH>C: ' 6:' ' 6 :' 6CG:B' 6' F ; G ' G:' @ C B' C ?H B 6 ' G:' @8 :BB:B' > :' 6BC @: ; ' >6;' > :' A: 9' ? 9' C: ? :6 : ;' : G: ' F G' @ 8 ? :6 ' 6' G C ' >9: B' G:' @8 :BB:B' F: :' :6 : 9' G ; ; :6' 6; : ' G:' ? >BB' ' 8@@ BG' FG CG' G>;' > :6' ?' G:' 8 ; 6 ' CG : 9' ?' G:' 8HH: ' B F9 ' >6;' 6 9' @:C>? :' >HH> :6 ' FG:6' % ' 8B' ?>; :' G B' :DC>A>P 6B <

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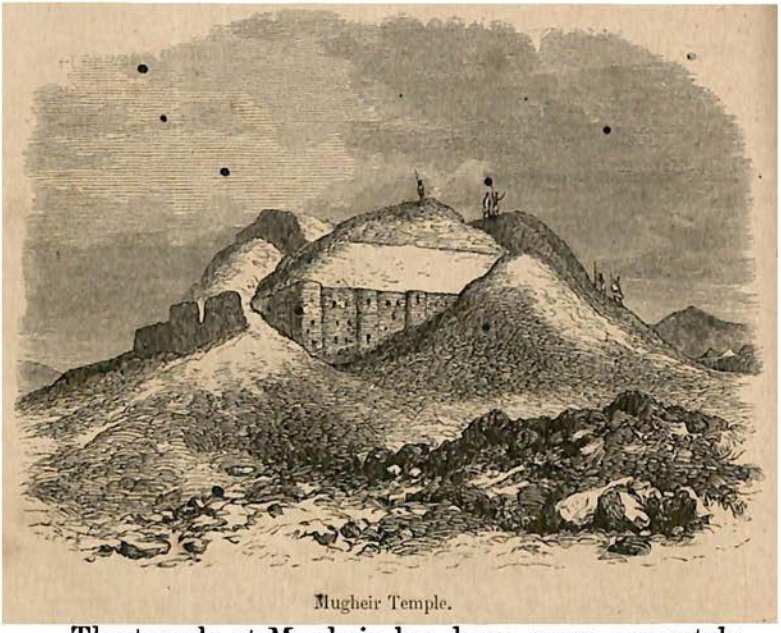
doubtful, while the original mode of access is undiscovered; and thus the plan of the building is in many respects still defective. We only know that the building was a square; that it had two stories at the least; and that its height considerably exceeded 100 feet.



Mugheir Temple.

The temple at Mugheir has been more accurately examined. On a mound or platform of some size, raised about twenty feet above the level of the plain, there stands a rectangular edifice, consisting at present of two stories, both of them ruined in parts, and buried to a considerable extent in piles of rubbish composed of their *débris*. The angles of the building exactly face the four cardinal points.[4] It is not a

[4] Loftus, *Chaldæa and Susiana*, p. 128. According to Mr. Loftus, this emplacement "is observable in all edifices (temples?) of true Chaldæan origin."

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6+ G :>Bʻ >6;ʻ B 8 G F:B ʻ >6;ʻ ?:>B8 :ʻ "X+ʻ :: 4ʻ
FG :ʻ G:ʻ BG : ʻ B ;:Bʻ FG CGʻ >C:ʻ G:ʻ 6 G F:Bʻ
>6;ʻ G:ʻ B 8 G :>B ʻ ?:>B8 :ʻ "..ʻ :: ʻ G:ʻ H :B:6ʻ
G: G ʻ G:ʻ @>B:?:6ʻ B 9ʻ Bʻ -[ʻ :: ʻ @8 ʻ > F 6 ʻ
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>6\ʻ G:ʻ ;:B 8C 6ʻ ʻ G:ʻ 8HH: ʻ H> ʻ @9ʻ G:ʻ G>6;ʻ
ʻ ?:ʻ F:ʻ ?>9ʻ H :B8?:ʻ G> ʻ G:ʻ 6>ʻ G: G ʻ
F>Bʻ :#ʻ ʻ > ʻ > ʻ BG ʻ ʻ \,ʻ :: ʻ G:ʻ 6 : ʻ
ʻ G Bʻ B 9ʻ Bʻ @8 ʻ ʻ C 8;:ʻ U ʻ B86 ; :;ʻ @ C Bʻ ʻ
B?> ʻ B `:ʻ > ;ʻ 6ʻ @ 8?:64 G8ʻ ʻ Bʻ >C:;ʻ < G 8 GP
8ʻ F Gʻ >ʻ F> ʻ :6ʻ :: ʻ 6ʻ G C 6:BBʻ C ?H B:;ʻ ʻ
:;ʻ G ; :;ʻ @ C Bʻ :F B:ʻ C:?:6 :;ʻ F Gʻ @ 8P
?:6ʻ G Bʻ :D : 6>ʻ F> ʻ Bʻ > ʻ 6C:ʻ B :6 G:6:;ʻ
>6;ʻ ; A: B :;ʻ # G:ʻ :9:ʻ @9ʻ >ʻ 68?@: ʻ ʻ BG> Fʻ
@8 :BB:Bʻ ʻ H >B : Bʻ 6ʻ G:ʻ B>?:ʻ ?> : > 4 ʻ G:B:ʻ
G: :ʻ > :ʻ 6 6:ʻ 6C 8; 6 ʻ G:ʻ C 6: ʻ 6:Bʻ 6ʻ G:ʻ
6 : ʻ >6;ʻ B Dʻ 6ʻ G:ʻ BG : ʻ B ;:Bʻ G:ʻ F ; Gʻ ʻ
G:ʻ @8 :BB:Bʻ Bʻ : G ʻ :: ʻ >6;ʻ G: J4ʻ H J:C 6ʻ >ʻ
:ʻ ? <:ʻ G>6ʻ >ʻ ʻ G:ʻ F> Bʻ >6;ʻ @8 :BB:Bʻ
> :ʻ B H:ʻ 6F> ;Bʻ > ʻ >6ʻ >6 :ʻ ʻ 6 6:ʻ ;: ::Bʻ 6ʻ
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C>B:ʻ 6 6:ʻ :: ʻ F ;:ʻ F Gʻ B ;:Bʻ ʻ @> 8B >;:Bʻ G ::ʻ
:ʻ F ;:ʻ FG CJʻ :>;Bʻ 8Hʻ ?ʻ G:ʻ H > ?ʻ ʻ G:ʻ
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B 8 G :>B ʻ >C:ʻ :78>ʻ 6ʻ F ; Gʻ ʻ G:ʻ B:C 6;ʻ B 9ʻ
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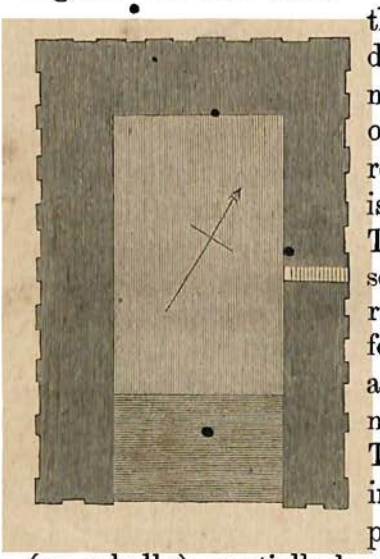
@8 ; 6 ʻ ?ʻ B ;Hʻ ʻ B ;:4 G:9ʻ H:6: > :ʻ > :ʻ G:

walls and buttresses, and must have tended to preserve the dryness of the structure.

The second story is, like the first, a parallelogram, and not of very different proportions.[6] Its longer sides measure 119 feet, and its shorter ones 75 feet at the base. Its emplacement upon the first story is exact as respects the angles, but not central as regards the four sides. While it is removed from the south-eastern edge a distance of 47 feet, from the north-western it is distant only 30 feet. From the two remaining sides its distance is apparently about 28 feet. The present height of the second story, including the rubbish upon its top, is 19 feet; but we may reasonably suppose that the original height was much greater. The material of which its inner structure is composed, seems to be chiefly (or wholly) partially-burnt brick, of a light red colour, laid in a cement composed of lime and ashes. This central mass is faced with kiln-dried bricks of large size and excellent quality, also laid, except on the north-west face,[7] in lime mortar. No buttresses and no staircase are traceable on this story; though it is possible that on the south-east side the grand

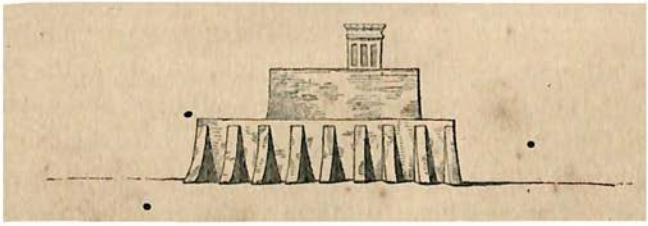


[6] The proportions of the lower stage are almost exactly as 3 to 2. Those of the upper are as $3\frac{1}{13}$ to 2.

[7] On this side the material used is bitumen. (See Mr. Taylor's article in the *Journal of the Asiatic Society*, vol. xv. p. 261.)

staircase may have run the whole height of both stories.

According to information received by Mr. Taylor from the Arabs of the vicinity,[8] there existed, less than half a century ago, some remains of a third story, on the summit of the rubbish which now crowns the second. This building is described as a room or chamber, and was probably the actual shrine of the god in whose honour the whole structure was erected. Mr. Taylor discovered a number of bricks or tiles glazed with a blue enamel, and also a number of large copper nails, at such a height in the rubbish which covers up much of the second story, that he thinks they could only have come from this upper chamber. The analogy of later Babylonian buildings, as of the Birs-Nimrud and the temple of Belus at Babylon,[9] confirms this view, and makes it probable that the early Chaldæan temple was a building in three stages, of which the first and second were solid masses of brickwork, ascended by steps on the outside, while the third was a small house or chamber



highly ornamented, containing the image and shrine of the god.

In conclusion, it must be observed that only the lower story of the Mugheir temple exhibits the work-

[8] *Journal of the Asiatic Society*, vol. xv. p. 264. [9] Herod. i. 181.

‘ * * * ",

C>B:‘ > B ‘ :>; ‘ 8H‘ ?‘ G:‘ H > ?‘ ‘ G:‘ B8 ? ? ‘
C ‘ G:‘ B ‘ B 9 ‘ C 6 H B: ;‘ ‘ B ? > ‘ H BG: ;‘ @ C B ‘
F :6 9 F ‘ 6CG:B‘ 6 ‘ G : :6‘ @ >; ‘ >6;‘ 8 ‘
>6;‘ >‘ G> ‘ G C ‘ G:‘ @: ;‘ ‘ G:‘ B > C>B:‘ B‘ ? >; :‘
‘ B86 ; : ;‘ @ C ‘ >6;‘ G:‘ ? > @ :‘ F>B‘ >B :6: ;‘ ‘
G B‘ B8@B > 8 ?‘ @9‘ C HH: ‘ G B‘ B ? :‘ H 6‘ ‘
FG CG‘ F>B‘ 86;‘ @9‘ % ‘ >9 ‘ B ‘ >; G: 6 ‘ ‘ G:‘
@ C B ‘ ‘ G:‘ ‘ ‘ G:‘ B > C>B:‘ G: :‘ >HH:> ‘
‘ G>A:‘ B ;‘ F ‘ C 8 ? 6B‘ 6:‘ 6‘ : G: ‘ B ; :‘ ‘ ‘
G:‘ C 6B 8C 6‘ ‘ G:B:‘ C 8 ? 6B‘ B‘ A: 9‘ B 6 8 > ‘
‘ C C8 > ‘ 68C :8B‘ C ? H B: ;‘ ‘ B>6; B 6:‘ B >@B‘ >6;‘
B ? > ‘ C9 6; C> ‘ H :C:B‘ ‘ ? > @ :‘ ; BH B: ;‘ 6‘ > : P
6> :‘ >9: B‘ F>B‘ C > : ;‘ :D : 6> 9‘ F G‘ C > B:‘ ? :‘
? D: ;‘ F G‘ B ? > ‘ B 6:B‘ >6;‘ H:@@ :B‘ 86 ‘ @9‘ ? :>6B‘
‘ ? >69‘ B8CC: A ‘ >9: B‘ G:‘ H > ‘ G>;‘ > > 6: ;‘ G:‘
; :B : ;‘ @8 ‘ >6;‘ G C 6:BB‘ G8B‘ G:‘ B 6:‘ >6;‘
? > @ :‘ F: :‘ :6 : 9‘ C 6C:> : ;‘ 86; : ‘ >‘ G C ‘ C > 6 ‘
‘ H >B : 4 >6;‘ >‘ B ? G6:BB‘ F>B‘ A:6‘ ‘ G:‘ 8 : ‘
B8 >C: ‘ FG CG‘ ‘ A 8 ;‘ G>A:‘ G: F B:‘ @: :6‘ ; C8 ‘
‘ @ > 6 ‘ U
G:‘ ; > :‘ ‘ G:‘ @8 G>G : 6‘ : ? H :‘ B‘ G 8 G ‘
‘ G:‘ C 6B ; : >@ 9‘ > : ‘ G>6‘ G> ‘ ‘ G:‘ G: ‘ @8 ; P
6 B‘ >@ A:‘ ; :BC @: ;‘ 4# >6;‘ G:‘ H > B‘ F 8 ;‘ B: : ?‘ ‘
@:‘ >‘ : 6: ? :6 ‘ 6‘ G:‘ B ? H C 9‘ ‘ G:‘ :> : ‘ ? :B ‘
G:‘ 8B:‘ ‘ B 6:‘ B‘ ‘ @:‘ >CC 86 : ;‘ ‘ 6 ‘ B ‘ ? 8CG‘
@9‘ G:‘ >; A>6C:‘ ‘ > CG :C 8 > ‘ BC :6C: ‘ >B‘ @9‘ G:‘
6:> ‘ A C 6 9‘ ‘ G:‘ >@ >6‘ G B ‘ ?‘ FG CG‘ G> ‘
? > : > ‘ C 8 ;‘ @:‘ :>; 9‘ ; : A: ; ^
‘ B‘ :A ; :6 ‘ G> ‘ ‘ G:‘ G> ; >:>6‘ : ? H :B‘ F: :‘
‘ G:‘ CG> >C : ‘ >6;‘ C 6B 8C 6‘ FG CG‘ F:‘ G>A:‘
> G: : ;‘ ?‘ G: ‘ : ? > 6B ‘ G:9‘ C 8 ;‘ G>A:‘ H B

C C ‘ ‘ %‘ " % '!‘ D2, ‘ K +>>‘ G>,2?!‘ 4A@ ">:‘ D ‘ ‘ I ‘
. - ‘ ‘ U 1!‘ 2"> ‘ +B :@!‘ 4A ‘ ‘ !‘ Q‘ @ F‘ ‘ R

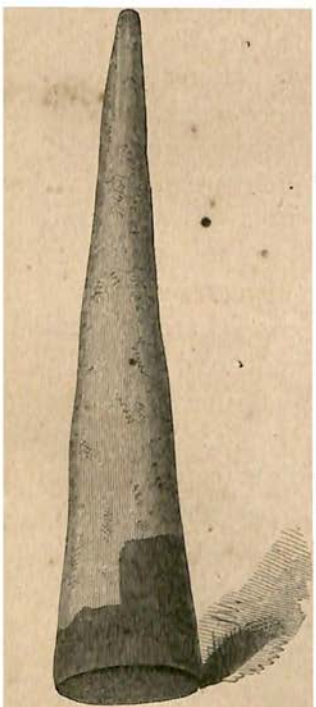
",- *') + ' '

B:BB:;' 6 ' :>' > C :C 8 >' @:>8 9' G 8 G' G:9'
?>9' 6 ' G>A:' >C :;' >' C: > G' >6;:8 ' 6' G:#
;:>;' :A: ' ' $>@9 6 >' >6' : :A> 6' :A:6' ' ",,'
' "j,' :: ' ?8B' G>A:' @::6' ?H :BB A:4^' >6;' G:'
H > 6' ?>BB A:6:BB' ' G:' B 8C 8 :B' 6 ' ; 8@'>;;:;'
' G: ' >6;' : :C ' 6' G:' @:G ;: ' $8' G: :'
F>B' B 6 8 > 9' :' 6' G:' @8 ; 6 B' > CG :C 8 > 9'
A :F:;' ' H :>B:' G:' :9:' ' > 9' G:' B:6B:2 '
@:>8 9' ' :; C:B' 6' G:' F ; (6 ' :A:6' G:'
9 >? ;B (> :' ? :' ;: C :6' 6' :D : 6>' 6>?:6 '
G:' @8 :BB:B' >6;' G:' > G :B' FG CG' > 6:' @ :> '
G:' >' 86 ? 9' ' G:' F> B' > :' 6 :6;:;' BG6H 9'
' 8 9' >6;' C>6' BC> C: 9' @:' B> ;' ' @:2 ?8CG'
:?@: BG?:6 ' ' >69' : B' F: :' ?>;:' ' ;: G '
@9' G:' ; 6> 9' :B C:B' ' 6>?:6 ' > ' ' B::?B'
C :> ' G>' B8CG' : B' ; ;' 6 ' :D :6;' ' G:' FG :'
:; C:' @8' F: :' C 6 6:;' ' G:' BG 6:' B: (G:'
>C 8>' >@ ;:' ' G:' ; (G:' CG>?@: ' FG CG' C F6:;'
G:' FG :' >6;' F>B' > 6:' B C 9' BH:> 6 ' K G:'
:?H : L< A:6' G: :' G: :' B' 6 ' :>B 6' ' @: :A:'
G>' G:' @8 ; 6 ' G>;' :D : 6> 9' ?8CG' @:>8 9' '
> ?:6 B' ' > CG >A:B' ' C>H > B' 6 ' BC8 H 8 :;'
6>?:6 B' ' >69' 6;' G>A:' @::6' 86;' >? 6 ' G:'
G:>HB' ' 8@@ BG' 6' FG CG' G> ; :>6' ? 68?:6 B' > :'
G :: H> B' @8 :;' G:' 6>?:6 B' FG CG' G>A:' @::6'
>C 8> 9' ; BC A: :;' > :' B8CG' >B' B8 :B' G:' ;:>' '
6 : 6>' > G: ' G>6' :D : 6>' ;:C > 6 4' >6;' G:9'
:6;: ' ' H @>@ :' G>' B8CG' ;:C > 6' F>B' >' :>B'
6' B ?:' C>B:B' :D :?: 9' CG' G:' C HH: ' 6> B' >6;

N :' / 2 "B#' #@E# p N' ' O 2?' 2 ' " !' ' I I K'
2"A M' = 2:>' >a4 " M' 2:' = :>## D>' ' +>>' >:2F ' H ' I I ' ?A>:>' "A>'
"A@ ' "A>' :#"' # M, "' 2 ' 2 >' 2 ' "A>#>' #"@M>#' / #' (' @:>' 4@:> B,,E' F #" L
S >@"' A@,4,@'@B' ,>#!',22 = M' ' #2, L MB #A>F' :2 =' "A>' ">= ,>' : ' % %J' @"'
"@:E' M:@ F>B:' :2 ' "A>' #B::2B F M' "A>' #B = = "
,@ #' @ F' = @:#A># P' /6 P)/ '

@ 8:' :6>?: :;' :B' 86;' G G' 8H' 6' G:' %8 @: '
Y? 86;' G>A:' @::6' > #:>;9' 6 C:;#' ' @8 G>@'
:6' G:' 86;' >@ 8' G:' @>B:?:6' ' G:' B:C 6;'
B 9' F>B' C A: :;' F G' B?>' H:C:B' '> > :' >>'
Q@>B:'>6;'?> @:' 6:9'C8'>6;' H BG:;' ?'G>'
>6' 6CG' ' F' 6CG:B' 6' >6;' G>' >6' 6CG' N'
B ?:FG>' :BB$' 6' @ :>; G' :>CG' F G' >' G :' ; :;'
G2 8 G' B' @>C 'C 6>6 6' :6' >' > ?:6' '>'
C HH:' @ ' F>B' >B' B :F6' :BB'
G C 9' F G' B?>' H> :B' 'H8 :' ;' '
>6;' F G' >' 68?@:' ' ; G:>;:;' f'
G:>;:;' 6> B#8B:;'>HH> :6 9' '> >CG' G:' ;'
H>:B#' G:' 6:6>'H>B:' 'F ; F ' G:B:'
> ?:6 B' B::?' '> :B' G:' G G' 6>?:6> 6' '
G:' BG 6:' J' HB' 6B>6C:' YAAG CG' F:' G>A:' 6'
:>B 6' ' :> ;' >B' B 6 8>' ' 6' >6J'F>9':DC:HP
6>
G:' G> ;>B>6' :?>6B' FG CG' G F' G'8H 6'
G:' ; ?:B C#>CG :C 8:' ' G:' H: H:'>:' :F'>6;'
BC>6 9' ' B?>' G 8B:' F>B' ; B 6: :;' @9' %'
>9 '>'%8 G: '>6;' G:' H>6' 'B ?:' CG>?@: B'
F>B' ?>;:' 8'>' @8 G>G :64 @8' G:B:'>:'
G G: ' G:' 6 9' BH:C ?:6B' FG CG' C>6' @:' C 6P
;:6 9' >BB 6:;' ' G:' G>;:>6' H: ;' G:'
G 8B:'B ;' 6'>'H> ?' 'B86;:;'@ C B'H>A:;'
6' G:' H'F G' @8 6'@ C B' 'F>B'I@8' 6' G:'
?' '>'C BB'@8'F G'>' ;';:>' ' :8> 9'
:A: 9' F>'@:6'B ?:FG>' 6:' 'BG :'G>6'
G:' G: B' :' ?>: >'8B:;' 6' B' C 6B 8C 6'
F>B' @8 6'@ C ' G:' 8:' >9:' ?@:;:;' 6'
@ 8?:6' '>6;' G:' :?>6;:' 6' >' C:?:6' ' ?8;'
D:6> 9' G:' G 8B:' F>B' 6>?:6 :;' F G' H: H:6

dicular stepped recesses,[1] while internally the bricks had often a thin coating of gypsum or enamel, upon which characters were inscribed. The floors of the chambers were paved with burnt brick, laid in bitumen. Two of the doorways were arched, the arch extending through the whole thickness of the walls; it was semicircular, and was constructed with bricks made wedge-shaped for the purpose. A good deal of charred date-wood was found in the house, probably the remains of rafters which had supported the roof.[2]



Terra cotta cone. Actual size.

The chambers at Abu-Shahrein were of sun-dried brick, with an internal covering of fine plaster, ornamented with paint. In one the ornamentation consisted of a series of red, black, and white bands, three inches in breadth; in another was represented, but very rudely, the figure of a man holding a bird on his wrist, with a smaller figure near him, in red paint.[3] The favourite external ornamentation for houses seems to have been by means of coloured cones in terra cotta, which were imbedded in moist mud or plaster, and arranged into a variety of patterns.[4]

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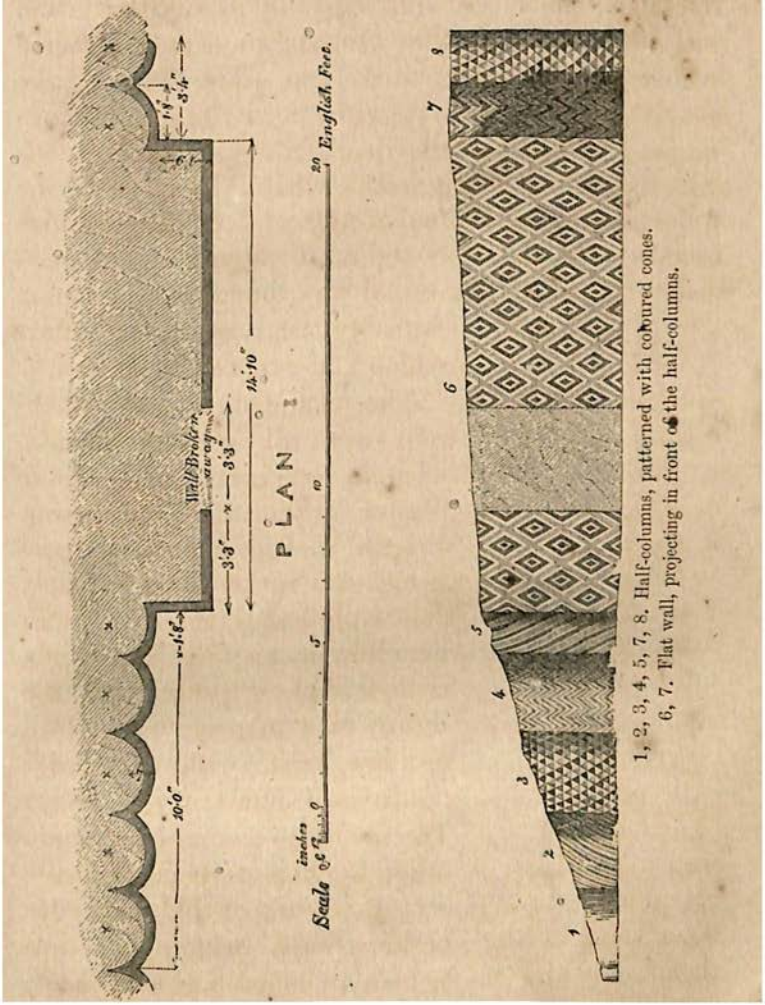
[1] Loftus, *Chaldæa and Susiana*, p. 133.

[2] *Journal of Asiatic Society*, vol. xv. pp. 265, 266.

[3] Ibid. p. 408, and p. 410.

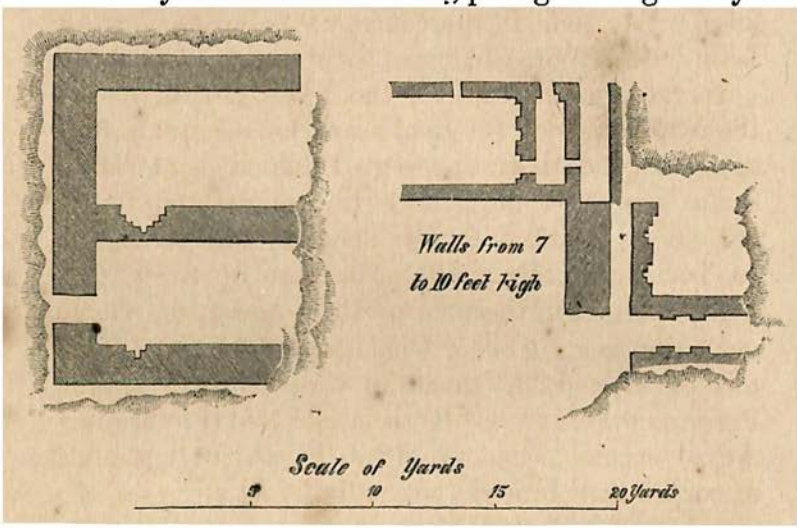
[4] Loftus, *Chaldæa and Susiana*, pp. 188-9. The building discovered by Mr. Loftus (from which the above representation is taken) was at Warka, and therefore might perhaps not


PLAN
Wall Broken away
20 English Feet
Scale of Inches
1, 2, 3, 4, 5, 7, 8. Half-columns, patterned with coloured cones.
6, 7. Flat wall, projecting in front of the half-columns.

But little can be said as to the plan on which houses were built. The walls were generally of vast

be *Chaldæan*. The vast number of similar cones, however, which occur at Abu-Shahrein (*Journal of As. Society*, vol. xv. p. 411) and other purely Chaldæan ruins, sufficiently indicate the ornamentation to belong to the first empire.

thickness, the chambers long and narrow, with the outer doors opening directly into them. The rooms ordinarily led into one another, passages being rarely



found. Square recesses, sometimes stepped or dentated, were common in the rooms; and in the arrangement of these something of symmetry is observable, as they frequently correspond to or face each other. The roofs were probably either flat—beams of palm-wood being stretched across from wall to wall[5]—or else arched with brick.[6] No indication of windows has been found as yet; but still it is thought that the chambers were lighted by them,[7] only they were placed high, near the ceiling or roof, and thus do not appear in the existing ruins,

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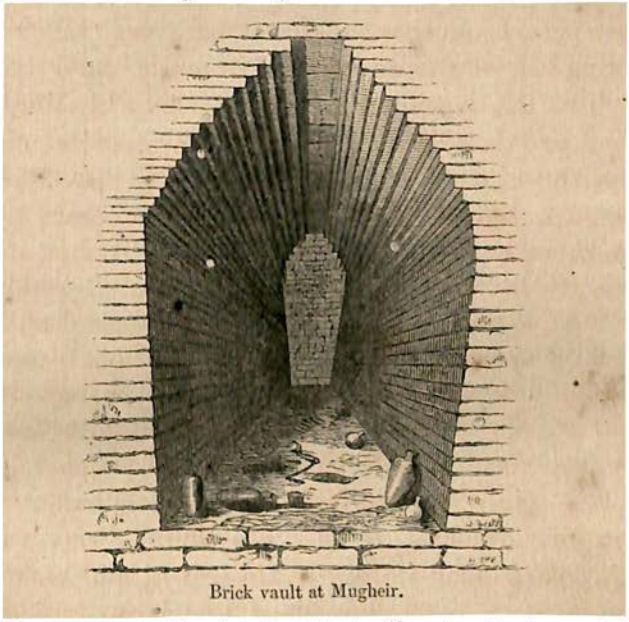
[5] Mr. Taylor found remnants of these at Mugheir. (*Journal of As. Soc.* vol. xv. p. 266.)

[6] Mr. Loftus believes that Chaldæan buildings were usually roofed in this way. (*Chaldæa and Susiana*, pp. 182, 183.) Mr. Taylor also believes that some of the chambers which he excavated must have been domed. (*Journal of As. Soc.* vol. xv. p. 411.)

[7] Loftus, p. 182.

F C 'C 6B B ' ? : : 9' ' G:' F: ' H 6' ' F> B ' B:% ? ' :DC: : ; 6 ' G:' G: G ' ' B:A:6' ' : G ' : : ' G:' ; F>9B ' @ G' 8 : ' >6 ;' 66: ' > :' F> ;B' G:' B ; :B' > G: ' G>6' 6' G:' C:6 :' ' G:' >H> ? :6 B (>' :> 8 :2C ? ? 6' ' G> ; :>6' F G' BB9 >6' @8 ; 6 B :D ' ' G: ' : ; C:B ' G:' ? B ' : ? > >@ :' ' G:' : ? > 6B' FG CG' G:' G> ;B:>6B' G>A:' : ' ' > : ' > :B2 ' > :' G: ' @8 > H >C:B ' 0 G :' >6C :6 ' ? @B' > :' ' A: 9' > :' CC8 :6C:' 6' BB9 >' >6 ;' HH: ' $>@9 6 >4' G> ;>:>' H: ' >@ 86 ;B' F G' G: ? ' ' G>B' @: : 6' C 6J:C 8 : ; ' F G' B ? :' BG F' ' :>B 6 ' G> ' G:' BB9 >6B ' 6' JJ: ? :' ' G: ' H F: ' ? >9' G>A:' ? > ; :' G:' B>C : ;' >6 ;' ' G> ;B:>' G:' :6: > ' ; :H B P 9' ' G: ' ; :>; ^' ? 8CG' 6' G:' B> ? :' F>9' >B' G:' : B >6B' :A:6' 6 F' HB:' 1 : @: >' > ;' : ; J ' '%:BG: ;' ' >B' BH:C > ' C: ? : : 9' C :B ' ' FG CG' G 8B>6 ; B' ' C HB:B' > :' @ 8 G ' >668> 9 ^' ' >69' > : ' G:' 78>6 9' ' G8 ? >6' : CB' >CC8 ? 8 > : ;' 8H 6' C: > 6' G> ; :>6' B :B' B' :6 ? 8B ' >6 ;' B: : ? B' ' @:' 78 :' @:9 6 ;' FG> ' G:' ? : :' H H8 > 6' ' G:LB8 86 ; 6 ' ; B C ' C 8 ;' 8 6 BG ' ' 0 > >' ' 6B >6C: ' : DP C:H 6 ' G:' >6 8 > ' BH>C:' @: F : : 6' G:' G : :' H 6C H>' 8 6B ' G:' FG :' : ? > 6 ; : ' ' G:' H > ? ' G:' FG :' BH>C:' F G 6' O' F> B ' >6 ;' >6' 86 6 F6' :D :6 ' ' ; :B: ' @:9 6 ;' G: ? ' > :' :A: 9FG: :' :;' F G' G8 ? >6' @ 6:B' >6 ;' B:H8 CG :B ' 6' H >C:B' C 6B' > :' H : ;' 8H 6' C 6B ' C: > 6 9' ' G:' ; :H G' ' . , ' H @>@ 9' ' G:' ; :H G' ' 5 ,' : : 4' >6 ;' ' ? :B' 6' :>CG' B ; :' ' G:' 8 6B' G:' >A: : ' F> B' 8H 6' >' B ' : : ? 6 ' _E G' G:' : CB' ' >6C :6 ' >6 ;' 6 F' nH @>@ 9' :D 6C ' >C:B ' ? : ? :B' G:B:' : CB

remarkable form and construction of the arch. The side walls of the vaults slope outwards as they ascend; and the arch is formed, like those in Egyptian buildings and Scythian tombs,[4] by each successive layer of bricks, from the point where the arch begins, a little overlapping the last, till the two sides of the roof are brought so near together that the aperture may be closed by a single brick. The floor of the



Brick vault at Mugheir.

vaults was paved with brick similar to that used for the roof and sides; on this floor was commonly spread a matting of reeds, and the body was laid upon the matting. It was commonly turned on its left side, the right arm falling towards the left, and the fingers resting on the edge of a copper bowl, usually placed on the palm of the left hand. The

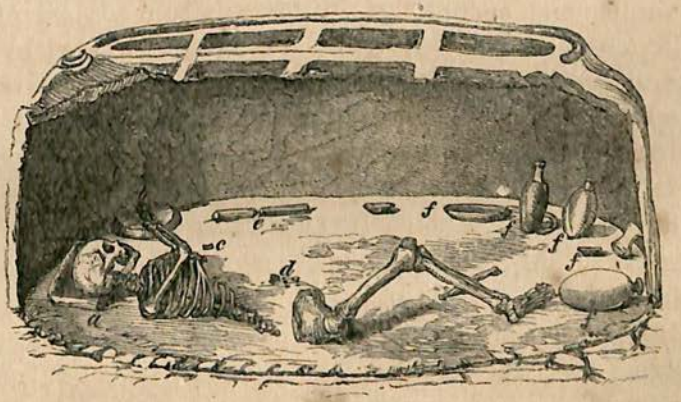
[4] See the author's *Herodotus*, vol. iii. p. 61.

"", *ˢ) + ˢ ˢX&

G:> ˢF>BˢH 6 :;ˢ 6ˢ>ˢB 6 :ˢB86 ; :;ˢ@ C ˢ '> 8Bˢ
> C :Bˢ ˢ 6>?:6ˢ>6;ˢ 8B:ˢF: :ˢ 6 : :;ˢF Gˢ:>CGˢ
@ ;9ˢFG CGˢF ˢ@:ˢ? :ˢH> C8 > 9ˢ;:BC @:;ˢG: :P
> : ˢ ;ˢB::?Bˢ :6ˢ ˢG>A:ˢ@::6ˢH >C:;ˢ 6ˢ G:ˢ
?@Bˢ>6;ˢJ> Bˢ ˢ G: ˢ; 6 6 ˢA:BB: Bˢ> :ˢ86 A: B> ˢ
G:ˢ@ C ˢA>8 Bˢ>HH:> ˢ ˢG>A:ˢ@::6ˢ >? 9ˢB:H8 CG :B4ˢ
G:9ˢ :6ˢ C 6 > 6ˢ G ::ˢ ˢ 8 ˢ @ ; :Bˢ>6;ˢ 6ˢ 6:ˢ
C>B:ˢ>ˢB 6 :ˢA>8 ˢC 6 > 6:;ˢ: :A:6ˢB : : 6B ^ˢ
G:ˢ C >9ˢ C 6Bˢ BG>H:;ˢ :ˢ >ˢ ; BG C A: ˢ > :ˢ
>? 6 ˢ G:ˢ? Bˢ C8 8Bˢ ˢ G:ˢB:H8 CG >ˢ :?> 6Bˢ H ˢ
>6 78 9ˢ 6ˢ>ˢH > ?ˢ ˢB86 ; :;ˢ@ C ˢ Bˢ > ;ˢ>ˢ
?> ˢ:D>C 9ˢB 6 > ˢ ˢ G B:ˢ 6ˢC ?? 6ˢ 8B:ˢ >? 6 ˢ
G:ˢ >@Bˢ ˢ G:ˢ C 86 9ˢ > ˢ G:ˢ H :B:6ˢ ;>94ˢ >6;ˢ
G: : 6ˢ :Bˢ G:ˢ B : : 6ˢ ; BH B:;ˢ >Bˢ 6ˢ G:ˢ @ C ˢ
A>8 Bˢ >6;ˢ B8 86;:;ˢ @9ˢ 8 :6B Bˢ >6;ˢ 6>?:6 Bˢ
%> ˢB : : 6ˢ >6;ˢ 8 :6B Bˢ > :ˢ G:6ˢ C 6C:> :;ˢ @9ˢ>ˢ
G8 :ˢ C A: ˢ 6ˢ @8 6ˢ C >9ˢ ?:;ˢ Sˢ>ˢB 6 :ˢ H :C:ˢ
FG CGˢ Bˢ C ?? 6 9ˢB:A:6ˢ ::ˢ 6 ˢ F ˢ ˢ G ::ˢ ::ˢ
G G Q>6;ˢ F ˢ ::ˢ >6;ˢ>ˢG> ˢ@ >;ˢ > ˢ G:ˢ @ ?ˢ
ˢ Bˢ > : 9ˢ G>ˢ? ;: 6ˢ H : Bˢ H ;8C:ˢ > C :Bˢ ˢ
G> ˢ G:ˢB `:ˢ D : 6> 9ˢ G:ˢC 9: Bˢ G>A:ˢC ?? 6 9ˢ
B ?:ˢ B G ˢ 6>?:6 ˢ B8CGˢ >Bˢ ?Bˢ >6;ˢ BG> Fˢ
6;:6 > 6Bˢ >Bˢ :H :B:6 :;ˢ 6ˢ G:ˢ B : CGˢ N ˢ "Sˢ
6 : 6> 9ˢ G:9ˢ> :ˢH > 6ˢ ˢ? :ˢ G>6ˢ F ˢB : :P
6Bˢ G>A:ˢ:A: ˢ@::6ˢ 86;ˢ86;: ˢ>ˢB 6 :ˢC A: 4ˢ >6;ˢ
6ˢ G:B:ˢC>B:Bˢ G:9ˢF: :ˢ G:ˢB : : 6Bˢ ˢ>ˢ?> :ˢ >6;ˢ
>ˢ :?> :ˢ G ; :6ˢF: :ˢ 6 : :;ˢB:H> > : 9ˢ86;: ˢ
C A: Bˢ>@ 8ˢG> ˢ G:ˢB `:ˢ ˢ G B:ˢ ˢ>;8 Bˢ ?@Bˢ
ˢ G Bˢ 6;ˢ C ?? 6 9ˢ CC8ˢ > ˢ B ?:ˢ C 6B ;: >@ :ˢ
;:H Gˢ 6:ˢ F: :ˢ ; BC A: :;ˢ > ˢ %8 G: ˢ 6:> : ˢ
G:ˢB8 >C:ˢ G>6ˢB:A:6ˢ ˢ: G ˢ :: ^
G:ˢ G ;ˢ 6;ˢ ˢ ?@ˢC ?? 6ˢ@ Gˢ > ˢ %8 G:

No. 1.

No. 2.

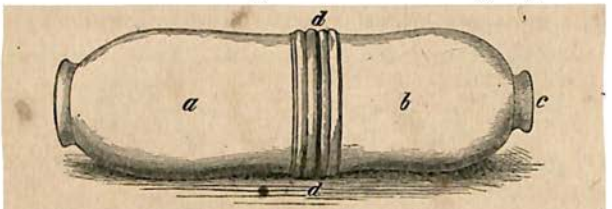


a. Sun-dried brick under head.
b. Copper bowl.
c. Small cylinder of meteoric stone; remains of thread going round arm-bone.
d. Pieces of cylindrical meteoric stone.
e. Pieces of bamboo.
f. Jars and utensils for food and water, made of baked clay; remains of date-stones in the shallow dish.

and at Tel-el-Lahm,[7] is almost as eccentric as the preceding. Two large open-mouthed jars (*a* and *b*), shaped like the largest of the water-jars at present in use at Baghdad, are taken, and the body is disposed

[7] *Journal of the Asiatic Society*, vol. xv. pp. 413, 414.

inside them with the usual accompaniments of dishes, vases, and ornaments. The jars average from two and a half feet to three feet in depth, and have a diameter of about two feet; so that they would readily contain a full-sized corpse if it was slightly bent at

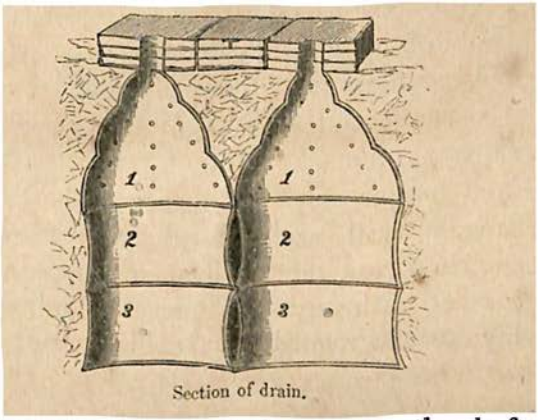


Chaldæan jar-coffin.

the knees. Sometimes the two jars are of equal size, and are simply united at their mouths by a layer of bitumen (*d d*); but more commonly one is slightly larger than the other, and the smaller mouth is inserted into the larger one for a depth of three or four inches, while a coating of bitumen is still applied externally at the juncture. In each coffin there is an air-hole at one extremity (*c*), to allow the escape of the gases generated during decomposition.

Besides the coffins themselves, some other curious features are found in the burial-places. The dead are commonly buried, not underneath the natural surface of the ground, but in extensive artificial mounds, each mound containing a vast number of coffins. The coffins are arranged side by side, often in several layers; and occasionally strips of masonry, crossing each other at right angles, separate each set of coffins from its neighbours. The surface of the mounds is sometimes paved with brick; and a similar pavement often separates the layers of coffins one from another. But the most remarkable feature in the tomb-mounds is their system of drainage. Long

shafts of baked clay extend from the surface of the mound to its base, composed of a succession of rings two feet in diameter, and about a foot and a half in breadth, joined together by thin layers of bitumen. To give the rings additional strength, the sides have a slight concave curve (see woodcut, 2 and 3); and,



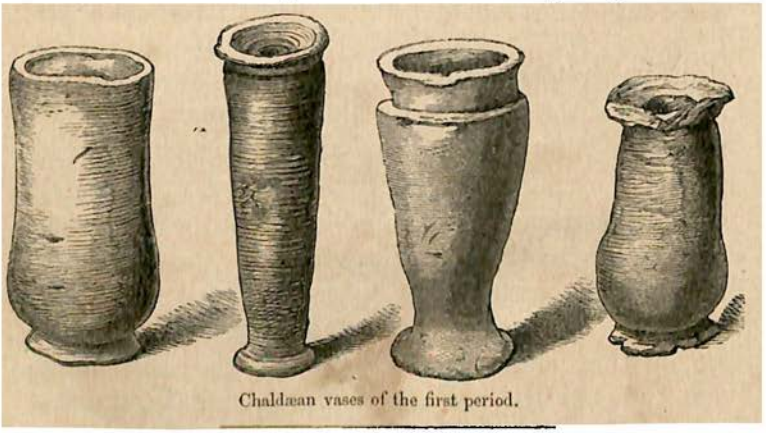
Section of drain.

still further to resist external pressure, the shafts are filled from bottom to top with a loose mass of broken pottery. At the top the shaft contracts rapidly by means of a ring of a peculiar shape (see woodcut, 1); and above this ring are a series of perforated bricks leading up to the top of the mound, the surface of which is so arranged as to conduct the rain-water into these orifices. For the still more effectual drainage of the mound, the top-piece of the shaft immediately below the perforated bricks, and also the first rings, are full of small holes to admit any stray moisture; and besides this, for the space of a foot every way, the shafts are surrounded with broken pottery, so that the real diameter of each drain is as much as four feet.[8] By these arrangements the

[8] *Journal of the Asiatic Society*, vol. xv. pp. 268, 269.

piles have been kept perfectly dry; and the consequence is the preservation, to the present day, not only of the utensils and ornaments placed in the tombs, but of the very skeletons themselves, which are seen perfect on opening a tomb, though they crumble to dust at the first touch.[9]

The skill of the Chaldæans as potters has received considerable illustration in the foregoing pages. No ordinary ingenuity was needed to model and bake the large vases, and still larger covers, which were the ordinary receptacles of the Chaldæan dead. The rings and top-pieces of the drainage-shafts also exhibit much skill and knowledge of principles. Hitherto, however, the reader has not been brought into contact with any specimens of Chaldæan fictile art which can be regarded as exhibiting elegance of



Chaldæan vases of the first period.

[9] Ibid. p. 272; Loftus, p. 210. Mr. Taylor, however, qualifies this latter statement. "Directly on opening these covers," he says, "were I to attempt to touch the skulls or bones, they would fall into dust almost immediately; but I found, on exposing them for a few days to the air, that *they became quite hard*, and could be handled with impunity." It is to be regretted that Mr. Taylor did not send any of the skulls, when thus hardened, to England, as their examination would have been important towards determining the ethnic character of the race.

form, or indeed any sense of beauty as distinguished from utility. Such specimens are in fact somewhat scarce, but they are not wholly wanting. Among the vases and drinking-vessels with which the Chaldæan tombs abound, while the majority are characterised by a certain rudeness both of shape and material,[1] we occasionally meet with specimens of a higher character, which would not shrink from a comparison with the ordinary productions of Greek fictile art. A number of these are represented in the woodcut below, which exhibits several forms not hitherto published—some taken from drawings by Mr. Churchill, the artist who accompanied Mr. Loftus on his first journey; others drawn for the present work from vases now in the British Museum.

It is evident that, while the vases of the first group are roughly moulded by the hand, the vases and

Chaldæan vases, drinking-vessels, and amphora of the second period.

[1] The vases represented in the cut are in a coarse clay, mixed with chopped straw, which sometimes appears upon the surface.

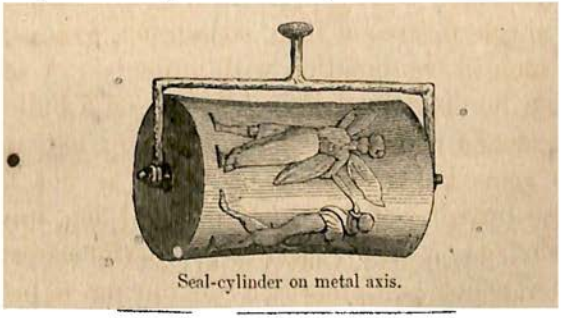
Chaldæan lamps of the second period.

lamps of the second have been carefully shaped by the aid of the potter's wheel. These last are formed of a far finer clay than the earlier specimens, and have sometimes a slight glaze upon them which adds much to their beauty.

In a few instances the works of the Chaldæans in this material belong to mimetic art, of which they are rude but interesting specimens. Some of the primitive graves at Senkareh yielded tablets of baked clay, on which were represented, in low relief, sometimes single figures of men, sometimes groups, sometimes men in combination with animals. A scene in which a lion is disturbed in his feast off a bullock, by a man armed with a club and a mace or hatchet, possesses remarkable spirit, and, were it not for the strange drawing of the lion's uplifted leg, might be regarded as a very creditable performance. In another, a lion is represented devouring a prostrate human being; while a third exhibits a pugilistic encounter after the most approved fashion of modern England! It is perhaps uncertain whether these

tablets belong to the Chaldæan or to the Babylonian period; but on the whole their rudeness and simplicity favours the earlier rather than the later date.

The only other works having anything of an artistic character, that can be distinctly assigned to the primitive period, are a certain number of engraved cylinders, some of which are very curious. It is clearly established that the cylinders in question, which are generally of serpentine, meteoric stone, jasper, chalcedony, or other similar substance, were the seals or signets of their possessors, who impressed them upon the moist clay which formed the ordinary material for writing.[2] They are round, or nearly so,[3] and measure from half-an-inch to three inches in length; ordinarily they are about one-third of their length in diameter. A hole is bored through the stone from end to end, so that it could be worn upon a string; and cylinders are found in some of the earliest tombs which have been worn round the wrist in this way.[4] In early times they may have been impressed by the hand; but afterwards it was



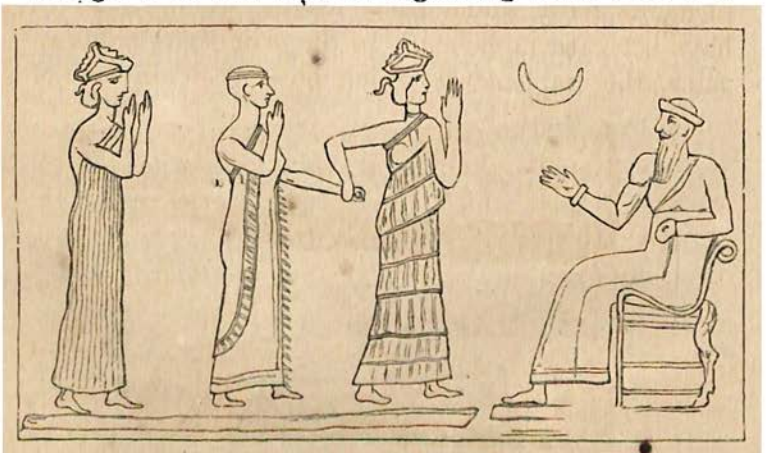
Seal-cylinder on metal axis.

[2] Layard, *Nineveh and Babylon*, pp. 608, 609; Rawlinson's *Herodotus*, vol. i. p. 336; Birch's *Ancient Pottery*, vol. i. p. 114.

[3] Sometimes the sides are slightly concave, as in the above representation.

[4] *Journal of Asiatic Society*, vol. xv. p. 271.

common to place them upon a bronze or copper axis attached to a handle, by means of which they were rolled across the clay from one end to the other.[5] The cylinders are frequently unengraved, and this is most commonly their condition in the primitive tombs; but there is some very curious evidence, from which it appears that the art of engraving them was really known and practised (though doubtless in rare instances) at a very early date. The signet cylinder of the monarch who founded the most ancient of the buildings at Mugheir, Warka, Senkareh, and Niffer, and who thus stands at the head of the monumental kings, was in the possession of Sir R. Porter; and though it is now lost, an engraving made from it is



Signet-cylinder of King Urukh.

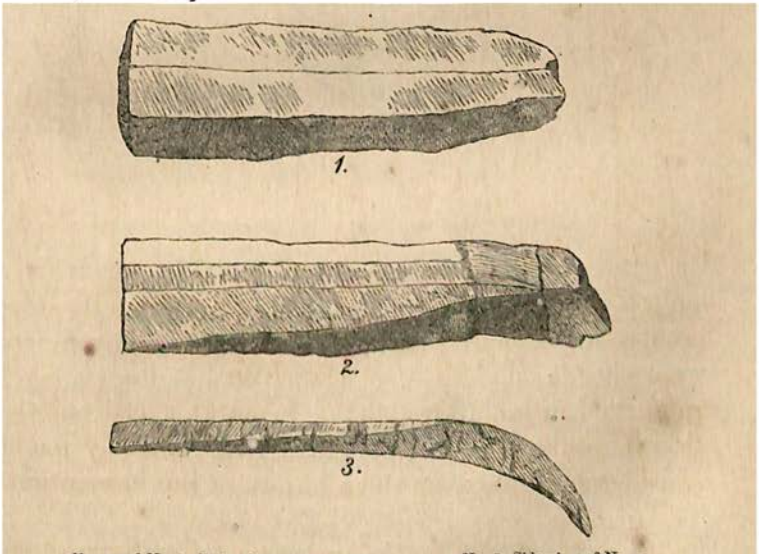
preserved in his 'Travels.'[6] From this representation it would appear that the art had already made considerable progress. The letters of the inscription,

[5] Mr. Layard found remains of the bronze in one specimen. (*Nineveh and Babylon*, p. 609.) The representation on p. 117 gives the probable form of the bronze setting.

[6] *Travels in Georgia, Persia*, &c., vol. ii. pl. 79, fig. 6.

which gives the name of the king and his titles, are somewhat rudely formed, as they are on the stamped bricks of the period;[7] but the figures appear to have been as well cut, and as flowingly traced, as those of a much later date. It is possible that the artist employed by Sir R. Porter has given a flattering representation of his original; otherwise the conclusion must be that both mechanical and artistic skill had reached a very surprising degree of excellence at the most remote period to which Chaldæan records carry us back.

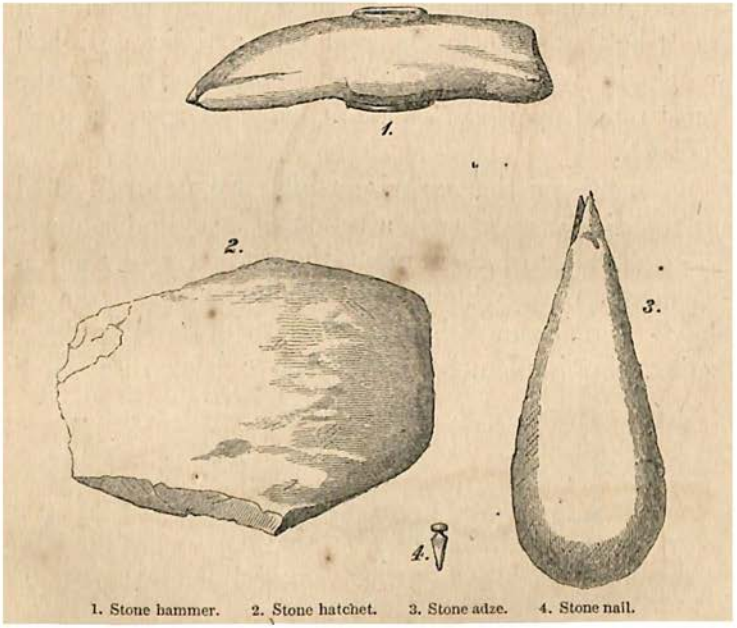
It increases the surprise which we naturally feel at the discovery of such a relic as the cylinder above represented, to reflect upon the rudeness of the implements with which such results would seem to have been accomplished. In the primitive Chaldæan ruins, the implements which have been discovered



No. 1 and No. 2. Back view of flint knives. No. 3. Side view of No. 2.

[7] See above, pages 80 and 87.

are either in stone or bronze. Iron in the early times is seemingly unknown, and when it first appears is wrought into ornaments for the person.[8] Knives of flint or chert, stone hatchets, hammers, adzes, and nails, are common in the most ancient mounds, which contain also a number of clay models,

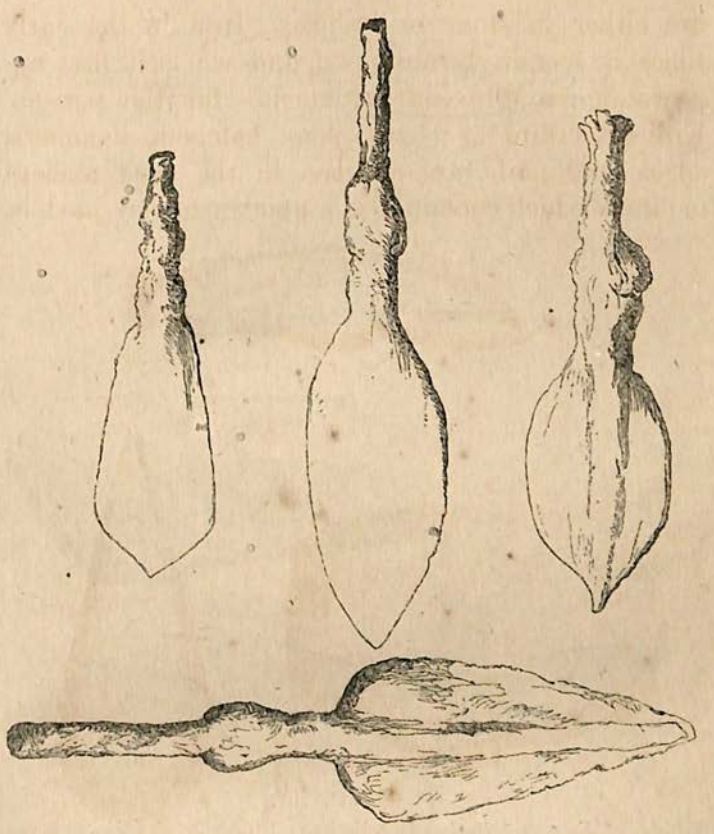


1. Stone hammer. 2. Stone hatchet. 3. Stone adze. 4. Stone nail.

the centres, as it is thought,[9] of moulds into which molten bronze was run, and also occasionally the bronze instruments themselves, as (in addition to spear-heads and arrow-heads) hammers, adzes, hatchets, knives, and sickles. It will be seen by the

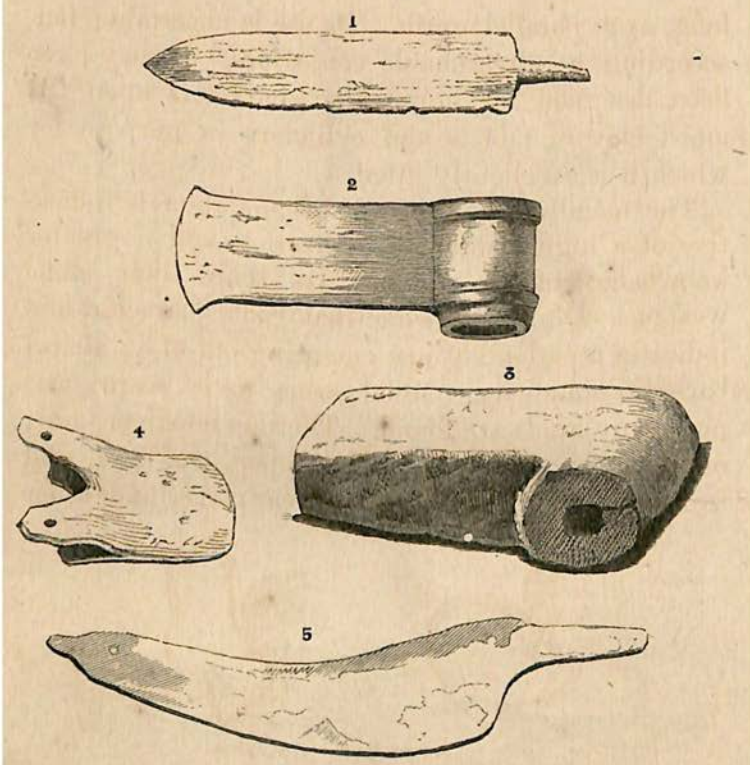
[8] Bangles and rings. (See the *Journal of the Asiatic Society*, vol. xv. p. 415.)

[9] This view was taken by Mr. Vaux in a paper read by him before the Society of Antiquaries, January, 1860, which he has kindly put into my hands. It may be questioned, perhaps, whether these clay models are not rather the representatives of real weapons and implements, buried in their stead by relatives too poor to part with the originals.



Chaldæan spear and arrow heads.

representations that these instruments are one and all of a rude and coarse character. The flint and stone knives, axes, and hammers, which abound in all the true Chaldæan mounds, are somewhat more advanced indeed than those very primitive implements which have been found in the drift; but they are of a workmanship at least as unskilled as that of the ordinary stone celts of Western and Northern Europe, which till the discoveries of M. Perthes were regarded as the most ancient human remains in our



Bronze Implements.

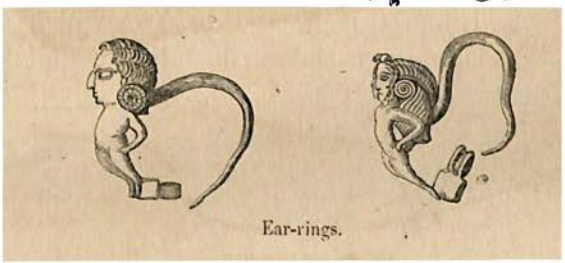
1. Knife. 2. Hatchet. 3. Hammer. 4. Adze. 5. Sickle.

quarter of the globe. They indicate some practical knowledge of the cleavage of silicious rocks, but they show no power of producing even such finish as the celts frequently exhibit. In one case only has a flint instrument been discovered perfectly regular in form, and presenting a sharp angular exactness. The instrument, which is figured below, is a sort of

Flint Implement.

long, open parallelogram. Its use is uncertain; but, according to a reasonable conjecture,[10] it may have been designed for impressing characters upon the moist clay of tablets and cylinders—a purpose for which it is excellently fitted.

The metallurgy of the Chaldæans, though indicative of a higher state of civilization and a greater knowledge of the useful arts than their stone weapons, is still of a somewhat rude character, and indicates a nation but just emerging out of an almost barbaric simplicity. Metal seems to be scarce, and not many kinds are found. There is no silver, zinc, or platinum; but only gold, copper, tin, lead, and iron. Gold is found in beads, ear-rings, and other



Ear-rings.

ornaments,[11] which are in some instances of a fashion that is not inelegant.[1] Copper occurs pure, but is more often hardened by means of an alloy of tin, whereby it becomes bronze, and is rendered suitable for implements and weapons.[2] Lead is rare, occurring

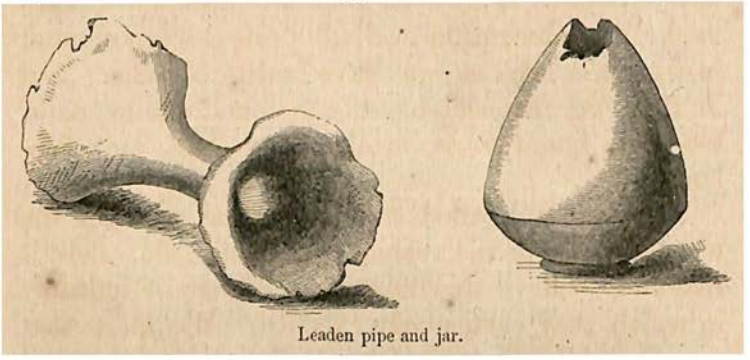
[10] *Journal of Asiatic Society*, vol. xv. p. 411.

[11] As fillets for the head. (Ibid. p. 273.)

[1] These ear-rings are given as Chaldæan, because they were found at Niffer among remains thought to be purely Chaldæan. At the same time it must be allowed that they very much resemble the Greek "Cupid ear-rings," of which there are so many in the British Museum.

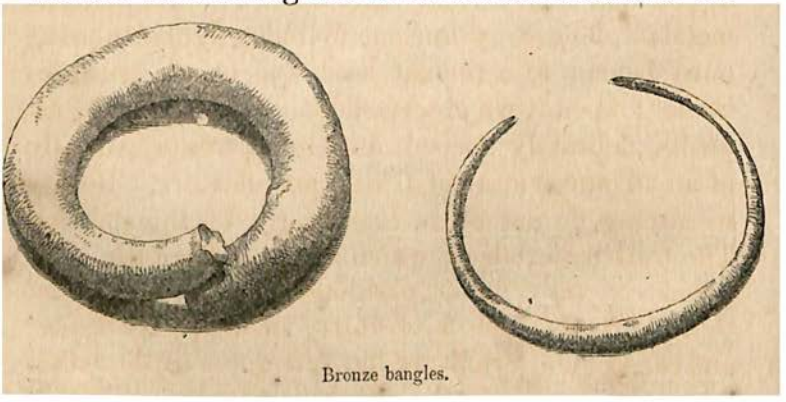
[2] See above, pages 121 and 122.

only in a very few specimens, as in one jar or bottle, and in what seems to be a portion of a pipe, brought by Mr. Loftus from Mugheir. Iron, as already ob-



Leaden pipe and jar.

served, is extremely uncommon; and, when it occurs, is chiefly used for the rings and bangles which seem to have been among the favourite adornments of the



Bronze bangles.

people. Bronze is, however, even for these, the more common material. It is sometimes wrought into thin and elegant shapes, tapering to a point at either extremity; sometimes the form into which it is cast is coarse and massive, resembling a solid bar twisted into a rude circle. For all ordinary purposes of

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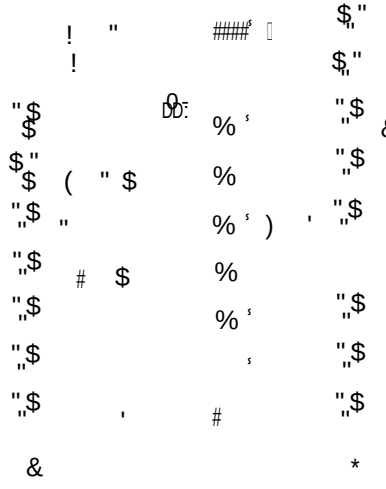

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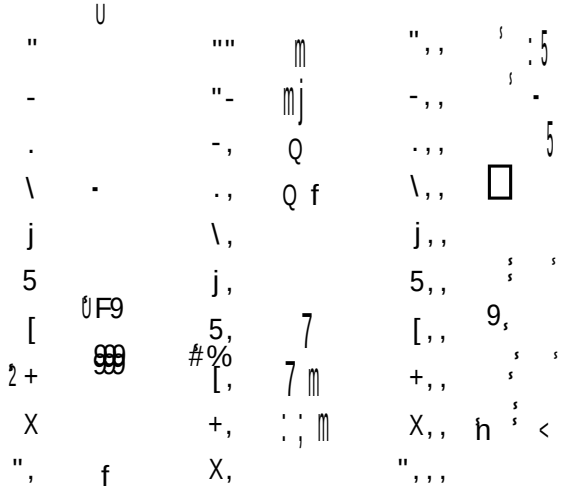

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:BH:C ' >6;' : ;' F G' :78> 9' :D> : ;' :H G: B

C '" @ >@:#' :2=' * # G B# R :2 ' :2=' A@,F@ @ D' #2B:4>#!' ?2 F' # D '
/ H &' _7 :# ' >' K' @ F' +E 4>,,B# "2' #A2?' "A@'" "A>:>' ?@#' :>@,,E' #B4A'
;B' &' D2, ' ' 'Q 5 K' ",="' @ ' >#2">: 4' F24": >' @#' #' #BMM>#">F'
60 & &' @'" @ E' :@">' n:@D>' "A #' "B: ' "2' ' "A>' ">#!" ' O >' 4@ 2'" ">,,!' A2?L
"A>' @GE,2 @ ' = E"A2,2ME ' O G@'" # >D>:!' ?A 4A' = 2:>' >@:,E' :> :>#> ">F'
4B"=" 2 ,E' :> 2:">F' 2 ' E"A@M2:@#!' " p "A>' = 2 2"A> #=' 2 ' "A>' +@= @ !'
> 22: " #!' @ F' 2"A>:#!' ?, 2' @:>' #@ F' 2:' "A>' @"A> #=' 2 ' "A>' ,:F>: ">' , 5'
"2' A@D>' F:@? ' "A> :' A ,2J2 (%5C ,2#2 A2:

B ?:' ::6'< ' B D ::6' H: B 6> :B' :D ' ' G:B:' H 6C H>' ;B' F: :'>' > ' ? :' 68?: 8B'>BB:?G 6 :' ' 6 : ' ' B:C 6;> 9' ; A 6 :B' :BB' :6' ?:6P 6:;' >6;' : > ;::;' >B' :BB' F G9' ' G 6 8 '@8' B ' :C 6B:;' :6: > 9' G 8 G' G:' C 86 9' 6> 9' G:' >6 G: 6' C 6 > 6:;'>'G B' '?: :' C>' ;B' ' :6 ' :A: 9' F6' >6;' > ? B' :A: 9'A > :' 6'2$>@9 6>' @: 6 ' 86;:' G:' H :C 6' ' B' F6' H> C8 > ' ; A 6 9

' F ' @:' ?H BB @ :' ' A:' >'C ?H : :' >CC 86 ' ' G B'A>B'>6;' C ?H C> :;' B9B :?' G:' B8@J:C' B' B '@8'H> > 9' F 2 :;' 8' @9'C86: ?' BCG > B4 G:' ; C8 :B' 6' G:' F>9' ' 86;: B >6; 6 ' ' > :' :> 4 >6;' 6' ?>69'H 6B' ' FG CG' BH;@>' > :6P 6' G>B' @::6' H> Y;' ' B' B >6 : 9' H: H :D 6 ' >6;' @:F ;: 6 #' ' G>' F ' @:' > :?H :;' 6' G:' H :B:6 ' H >C:' B' ' C 6A:9' >6' ;:>' ' G:' :6: >' CG> >C :' ' G:' G> ;>t>6' : 6'>6;' ' A:'B ?:' 6 ?> 6' F G' : > ;' ' G:'J 6C H>' ;: :B 6' G:' B'H >C:' ' ?8B'@:' 6 C:;2 G>' G:' : P 6' F>B' ' ' C: > 6' :D :6' ' G:' G:>A:6' B: ' G:' B86' G:' ? 6'>6;' G:' A:' H >6: B'G>A:' :>CG' G: ' :H :B:6 > A:' 6' G:' G> ;B:>6' >6 G: 6' >? 6 ' G:' CG :' @J:C B' ' F BG H' ' G:' B>?:' ?:' ' B' ' @:' @B: A:;' G>' G:' >B >' : :?:6' B' 6 ' 86 A: B>' @8'H> > 4 >6;' >' :A:6' FG: :' ' G>B' H >C:' ' B' @8' 6:' >BH:C' ' G:' ?9 G 9'6 ' @9'>69' ?:>6B' B' 8 '>6;' C ?H : :' :DH B 6' G:' G> ; :>6' : 6' :A:6' G: :' B' >' ? @: 6 ' ?: :' >@ :>6 B? (G:' B ?H :' F BG H' ' G:' K'G B' ' G:>A:6 L' G:' >G: ' G:#'B86' G:' ? 6'>6;' B

D

' +>4'"A>' *##@E' 2 ' + :' ' @?, ' D >?#' 42 "@ >F' ' ", #' 4A@ ">:' @:>' #2 ' ' ", >' @ ", 2: #' ! D2, ' "@O> !'
' ' :(Q" :2=' ?, 4A' #' 2 '"A>

? :' G:' A:' H >6: > 9' ;B' > :' B ?: G 6 ' >@ A:' >6;' @:9 6;' G B:' H> B' ' 6> 8 :' :' G:' C >BP B C>' H ' >6;' >6>' %> B' >6;' ' :68B' G:9' > :' :>' H: B 6B' F G' >' :' >6;' >' G B 9' >' H F: ' >6;' >6' 6 8:6C:' FG CG' 6 ' 6 :68 9' C>6' >6B > :' 6 ' >' ?: >HG C>' :H :B:6 > 6' 'HG:6 ?:6>' > >CG 6 ' ' G:' > ' >6;' ' G:' G:>A:6 9' @ ; :B' ' B' ; 8@ 8 ' 6;::;' FG: G: ' G B' C >BB' ' ;B' > :' :> 9' '>B ' 6 C>' 6' >6;' 6 ' > G: ' H ? A:' ;: :B' FG B:' CG> >C : B' >6;' > @8 :B' F: :' ' >' :>' 2I:D :6 ' D:;' >6;' B: :;' @: :' G:' 6 6' > B:' ' C 66:C 6 ' G:?' F G' C: > 6' H> B' '6> 8 :' CC>P B 6> 9' :9' B::?' 2 :H :B:6 ' G: :B' > G: ' G>6' C: :B >' @ ; :B'4 >6;' G:9' G>A:' > ' > @8 :B' 78 :' ; B 6C' ?' G: 'HG9B C>' ' '>B 6 ? C>' CG> >C : :C 6; 9' G:' B 6 ' :B:?@ >6C:' ' G:' G> ' ; :>6' B9B : ?' ' > ' ' G:' >BB C>' %9 G 9' B::?B' F G9' ' H> C8 > ' > :6 6' G B' :B:?P @ >6C:' B' ' :6: > ' >6;' ' C B:' 6' B ?:' :BH:C B' ' > F' ' G:' B8HH B 6' G>' ?: :' >CC ;:6 ' G>B' H ;8C:;' G:' C 6C ;:6C:' 6' G:' >6 G: 8B' ' ::C:' >6;' ?: ' >6;' 6' G>' ' G> ;> >' G:' B>?:' :6: >' 8H 6 ' B' '@:' :C 6 B:;'4 G:' B>?:' :6:P > C>' B8CC:BB 6' B' 6 ' 86 :78:6 9' '@:' >C:;'4 H8;' 6' Q ?:' C>B:B' :A:6' G:' >? > ' 6>?:B' >6;' :B @' C >BB C>' ; A 6 :B' >;? ' ' G:' ? B ' C8 8B' 8B > 6' >6;' :DH >6> 6' ?' G> ;>:>6' B 8 C:B' 0 :' C c ' BC> C: 9' ; 8@' @8 ' G> ' 6' B ?:' F>9' ' G: ' : :' F>B' >' C ? ?86 C> 6' '@: : B (>' H>BP B> :' 6' A: 9' :> 9' ?:B' ?' G:' nBG :B' ' G:' : B >6' 9 ' ' G:' >6;B' F>BG:;' @9' G:' %:; : P >6:>6' ' ?9 G C>' 6 6B' >6;' ; >B' ' B' > H @>@ :' C 6J:C 8 :'K G> '>? 6 G:' H ? A:

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@:Bʻ FG ʻ ; F : ʻ 6ʻ G:ʻ Bʻ >6 ;ʻ 8HG > :Bʻ FG:6ʻ >:ʻ C86: ?ʻ > HG>@: ʻ F>Bʻ 6A:6 : ;ʻ >6 ;ʻ FG:6ʻ B8CGʻ F 6 ʻ F>Bʻ B ʻ >HJ : ;ʻ ʻ G:ʻ H8 H B:Bʻ ʻ : 6 ʻ >ʻ C9 G Cy ʻ C9 G >6ʻ >C:ʻ :D B : ; ʻ FG ʻ B8@B:P 78:6 9ʻ ? > : ;ʻ ʻ 8 H: ʻ >6 ;ʻ @ 8 G ʻ F G ʻ G: ?ʻ ʻ ?9 G C> ʻ >; 6B ʻ FG CGʻ >Bʻ @J:C Bʻ ʻJ H8 > ʻ @: : ʻ G>;ʻ @: :6ʻ = a>Fʻ 8Hʻ 6ʻ G:ʻ 6>BC:6 ʻ : > 8 :ʻ ʻ G: ʻ 6> A:ʻ C 86 9 Lʻ >6 ;ʻ G> ʻ G:B:ʻ >; 6Bʻ F: :ʻ H>BB: ;ʻ 6ʻ ʻ G:ʻ C >BB C> ʻ 6> 6B ʻ FG ʻ F: :ʻ 6ʻ H> ʻ ; :BC:6 ; : ;ʻ ?ʻ G Bʻ C9 G Cʻ ʻ C9 G >6ʻ H: H :=

G:ʻ 8H 6 ʻ ʻ G:ʻ H 6C H>ʻ G> ;>:>6ʻ ; : :Bʻ Bʻ >Bʻ FB ʻ ʻ G:ʻ :> ;ʻ ʻ G:ʻ >6 G: 6ʻ B >6 ;Bʻ >ʻ ; ʻ ʻ ʻ > ʻ ʻFG ?ʻ @8 ʻ :ʻ Bʻ 6 F6 ʻ :D ʻ ʻ G ?ʻ Bʻ >ʻ >; ʻ & ʻ" 2 ʻ ʻ 2 ʻ" >6 ;ʻ . ʻ ʻ . ʻ" FG ʻ C :BH 6 ;ʻ C B: 9ʻ ʻ G:ʻ C >BB C> ʻ 8 ʻ *8H : ʻ >6 ;ʻ :H 86: ʻ ʻ >CGʻ ʻ G:B:ʻ Bʻ >CC ?H>6 : ;ʻ @9ʻ >ʻ : ?> :ʻ H 6C H :ʻ ʻ F : 7 & ʻ @9ʻ & ʻ" 2 ʻ N ʻ $: Sʻ @9ʻ K , ʻ ʻ $: Bʻ >6 ;ʻ L ʻ ʻ . ʻ @9ʻ M E ʻ G:6ʻ FBʻ >ʻ 8 G: ʻ >; ʻ C 6B B 6 ʻ ʻ ʻ ʻ L G ʻ" G:ʻ % 6 ;ʻ 4 ʻ ʻ ʻ" G:ʻ 864 >6 ;ʻ J " ʻ G:ʻ H;ʻ ʻ G:ʻ > ? BHG: : ʻ G:ʻ ?: ?@: Bʻ ʻ G Bʻ >;ʻ > :ʻ > > 6ʻ >CC ?H>6 : ;ʻ @9ʻ : ?> :ʻ H A : Bʻ ʻ F A:B (!+ @9ʻ >ʻ ; ; :BBʻ C> : ;ʻ ʻ ʻ E ʻ ʻ N G:ʻ 86Sʻ @9ʻ 9 ʻ ʻ & ʻ" >6 ;ʻ . C ʻ N G:ʻ % 6Sʻ @9ʻ >ʻ ; ; :BBʻ FG B:ʻ 6>?:ʻ B

"ʻ #ʻ 2?ʻ '> >:@,,Eʻ @,,2?>Fʻ "A@"ʻ #>D>:@,ʻ 42B ": >#ʻ A>ʻ Nʻ,@O>5F?>,,L ʻ +4E"A 4ʻ 2:ʻ B:@ @ !ʻ :@4>ʻ ?@#ʻ "A>ʻ M#ʻ Pʻ 2 ʻ * B:2 >ʻ = @Eʻ A>ʻ ? "Aʻ M:>@"ʻ :#"ʻ "2ʻ a 2 ,>ʻ * B:2%:>ʻ ʻ"A #ʻ :@4>ʻ :2G@G , "Eʻ @## M >Fʻ "2ʻ "A>= 'ʻ @ Fʻ ?>ʻ A@D>ʻ #" ,,ʻ :>= @ "#ʻ ʻ "A>ʻ @#L "A>ʻ , "5?>@ 2 #ʻ ʻ "A>ʻ F: "ʻ @:>ʻ ^B>#!ʻ) #!ʻ / @&K+!@ Fʻ * #"A# 2:ʻ * #"A25ʻ >:A@ #ʻ ":@4>#ʻ 2 '"A> ʻGB: @,5M:2B F# @ #ʻ B 2 ʻ "A>ʻ @," 4ʻ A>ʻ * " #5ʻ C A #ʻ @=>ʻ #ʻ D>: ʻ F2BG" B, ʻ 4@ #ʻ ʻ "@,Eʻ @:>ʻ >:A@ #ʻ 2 ʻ "A>ʻ :ʻ) 2aʻ @,G2"ʻ :> F>:#ʻ "ʻ GEʻ I >='ʻ " # @=>ʻ #"240 ʻ ʻ 1 :>>4>ʻ "A>Eʻ :2G@G,Eʻ ʻ >:"ʻ GEʻ .ʻ :ʻ , 4O#ʻ GEʻ G,> F>Fʻ ? "Aʻ "A>ʻ >,@#mʻ ʻ : @B#K!ʻ @ʻ 2:ʻ B & j # "A>Eʻ F Fʻ @,#2ʻ ? "Aʻ "A>ʻ >,"#

"\- & ' ' % & ' (

F 9' 86C: > 6' @8 ' FG B:' C ? ? 6' :' B' K' G:'
:>' >;9 L' 8CG' > :' G:' ;B' >' G:' G:>;' ' G:'
>6 G: 6' :D ' 6' ;: ' ' :?' F:' 6;' >' 8H'
' A:' ? 6 ' ;: :B' G ' :H :B:6 > A:B' ' G:' A:'
H >6: B (6' ' 6 H'N > 8 6S' %: ;>CG'N*8H : S'
: >' N%> BS' BG > ' N :68BS' >6;' :@ ' N%: C8 9S'
G:B:' : G: ' C 6B 8 :' FG>' nF:' G>A:' C> :;' G:'
5 5 ' ;B'4 > : ' G: ?' > :' ' @:' H >C: ;' G:' 68 ? :P
8B' ; A 6 :B' ' G:' B:C 6;' >6;' G ;' ;:
G:B:' H 6C H>' ;B' ; ' 6 ' >HH:> ' ' G>A:' @: : 6'
C 66:C : ;' :' G:' 9H >6' >6 ;' G:' C >BB C>' ; A P
6 :B ^' 6 ' >' B 6 :' :6:> C>' BCG: ? :') 9: ' B '
>' C: > 6' >? 86' ' 5' F>B' C 6B ;: :;' '
:D B' >? 6 ' G: ?' 6>' >6;' $: ' ' 6B >6C: ' FH :'
@ G: B' G:' B 6B' I' ' ' >'4 ' 8 ' F>B' B 6' ' 6>'4
&8 ' G:' % 6 ;' ' $: '4 :@ ' >6;' %: ;>CG'
F: :' B 6B' ' &:>' ' & >' %>69' ;: :B' G F:A: '
> :' F G 8 ' H> :6 > :' >B' 6 ' 6 9' ' ' >' @8 '
&:>' >6' N G:' 86S' BG > ' >6;' : > ' ? : ? :B'
G:' : > 6BG H' > : :;' B' C 6 8B: ;' >6;' :A:6' C 6P
>; C 9' >B' 6' G:' C>B:' ' 6' ' 6 H' FG ' B' >'
6:' ? :' G:' B 6' >' >6 G: ' G:' > G: ' ' $: ' >6;'
FG ' B' >' 6C:' G:' B 6' >6;' G:' G8B@>6;' ' $: B'
' B' :A ;:6 ' G>' G:' :6:> C>' >BH:C ' B' 6 ' G>'
8H 6' FG CG' ?8CG' B :BB' B' 6 :6;:;' ' @:' > ;'
' FG CG' B' :;' 8H 6' >B' G>A 6 ' ?8CG' :> 9'
G:' :>' ;B' > :' A:F :;' G>@ 8> 9' > G: ' >B' >'
G : > CG9' ' C :78>' H F: B' G>6' >B' 86 :;' @9' :B'
?H 9 6 ' 6' G:' 6:' G>6;' H : :? 6:6C:' >6;' 6' G:'
G: ' B8@ ; 6> 6

2' G:B:' BCG: ? :B' G: ?B: A:B' F: :' :C 6B:;' 6';' : :6' |;>C:B' @9' ; BP
@>@9' 6 ' I:6:> C>' >' B ' 6' 6C ' C ? ?86 :B' ' :A:6' @9' ; BP
'G: ' :6:> C>' BG>H:' G:9' F :' 6C ' >C:B' N ::' &86B:6<B' a '# 2'
>6' > >6 :?:6' A:6' > : ' @' FG :' A ' A' H'N|5' $' 6 ' >6B'S
' B:H> > :' >6;' 6;: C6;:8' ;: :B

0 :' ?>9' 6 F' C 6B ; : ' @ : 9' G:' G> >C : B' >6;' > @8 :B' ' G:' B:A: >' ; : :B ' B ' > ' >B' G:9' C>6' @:' ?>; :' 8 ' : G: ' ?' G:' 6> A:' :C ;B ' ' ?' C >BB C>' >; 6' 6;' B ' C 6C: 6 6 ' G:' ;' FG ' B >6;B' 6' B ?:' B:6B:' > ' G:' G:>;' ' G:' G> ;CC>6' >6 G: 6

,"52:

G:' ?' N ' :H :B:6 B' H @>@ 9' G:' 6> A:' G> ' ; :>6' 6>?:' ' G B' ;: 9 ' FG :' LL' B' G:' :? C' :78 A> :6 ' LL'" 'C 8 B:' B' @8 ' >' A> >6 ' 'O ' NY3DS' G:' ' ' G:' F: 6 F6' $ @ C>' O !' Nu<H333' >B' F: ' >B' ' G:' >@ C' & ' ' B' G B' 6>?:' FG CG' ; 8B' :H :B:6 B' 86; : ' G:' ?' 'O ' N &_ S<' >? ' >6CG 6 > G 6' ' > G: ' G $9G 8B' 86; : ' G>' ' 8B' &/ S ' L ' ,62#K N G:' ? :>6 6 ' ' G:' F ;' B' B ?H 9' K' ; L' 'H: G>HB' K' G:?' ;' L' :?HG> C> 9' N '" G:' 8BG :' :78 A> :6 ' ?8B' @:' C 6B ; : :;' ' G>A:' G>;' G:' B>?:' C:' 6> 9' G 8 G' 6' 9JJ' ' :C: A: ;' >' BH:C >' >HH C> 6' ' G:' B86' >6;' @:C>?:' G:' H H: '6>?:' ' G>' H> C8 > ' ; : 9' G:' F ;' B' B' 6' G:' ? ; : 6' G H C' ' ?: ;' >6' : : ?:6' 6?' G:' 6> A:' 6>?:' '$>@9 6' FG CG' F>B' 4 6 '" G:' 8BG :' :78 A> :6 ' ' G:' :? C' 2 6 '" >6' :DH :BB 6' B 6 9 6 ' K' G:' > :' ' ; L

>' B' >' ;' F G' :F' H:C8 > ' > @8 :B' &:' B' >' B ' ' 86' >6 ;' 6' ' ; : 9' ' :? :' ?' ?>6' ' @:' ?8CG' F BG HH: ;' ' ' :DC : >69' F> ?' 6 : :B ' G: :' B' 6 ' :A ; :6C:' ' G B' G>A 6 ' G>;

[' +>>' ;' + 4' ' . , ' ' . ' FG :' N +>>' A #' :@D:@> "# #' B,,>:'# G F:A: ' G: :' B' >' C 8V ' >; 644' < $&' BC &' : >4' D2, ' ' K ' Q1R' G:' F ;2& / 8' G 6 ' ? B ' >@B8 ; 9' @ F' QR I ") : ' ' !]' IU!' @ F') : ' Q :H >C: ;' @9' Y&/ < A

IUU *') + ' 0 ,' B:' -

;89' :?H :' 6< G> ; :>' ;8 6 ' G:' :> 9' ?:B' '
@: :' 6' G B' :D B :6C:' B' ?H :;' > G: ' G>6' :DP
H :BB:;' 6' 6BC H 6B' ' G:' H ? A:' 6 B'FG: :'
G:' % 6 ;' B' B> ;' ' G:' K'@ G: <B' B 6' ' 6>'
>6;' : ;:B'B 6' '$ ' '$: 8B L' 0 :' > G: ' ?' G B'
>'$:'>6;' 6>'F: :'C 6B ;: :;' 'G>A:?'>'C ?? 6'
> : 4 >6;' > : ' ; C8?:6 B' B8 C :6 9' 6; C> :' G>'
G>'C ?? 6' > G: 'F>B' ' ' >' 0 :' ?8B'C 6P
C 8;:' ?' G:' 6>?:' 2 '' G>' $>@9 6' F>B' P
6> 9'86;:'G B'H :C 6' G 8 G' G:' ;' BH:C > 9'
F BG HH:;' 6' G:' :>' :?H :' G: :' B::?B' 'G>A:'
@::6' 6' :> 9' ?:B'$:'>6;' 6' > : ' ?:B'%: ;>CG'
G:' ;:6 C> 6' ' G:' G> ;B:>6' ' ' >'F G'
>8 6'FG CG' ; 8B' ?> :B ^'>6;' FG CG' ?>9'B::?'
' ;: A:' B ?:' C 6 ?> 6' ?' G $9@ 8B # B'
C: >6 9' 6C :C 'B' >'>B' G:'H >6:' >8 6'FG CG'
; 8B' :BH:C > 9' ?:6 6B' B' C 6C: 6:;4 @8' '
?>9' @:' : > ;:;' >B' G>A 6 ' >' @>B B' ' 8 G' 6>BP
?8CG' >B' >8 6' F>B' 6' 6:' B:6B:' G:' CG :' ' G:'
;B' >6;' F>B' G:' > G: ' '*8H :' >6;' 8 ' >B'
>'F>B' '$ '>6;' 6>

& ! '' :' LL' >6;' N '' B' G 8 G' ' G>A:' @::6' >'
F ;' 6> 9' B 6 9 6 'K' ;L' I6' G:' G G:B'
B:6B:' G:' ' CC8 B' H @>@ 9' 6' G:' 66:; 8B'
>6;' >66:B' '$: B8B ^'>B' F: '>B' 6' G $9@ 8B<B

C /24'#B '4 "' +"@' ' $ ' ' :2 >##"'"2' G>' A2> 4@' @ F' 2''
$ '*# ' , # 7 42.2 5 @GE,2 @ E"A2,2#E
:"D% .2D '): 'I!']' '@ F'): 'J' >F2" #'
< *# # ,' !' 2' U(2 g4># % ? +? 2#K' # >:A@ #K' N'M D> 'GE'
0 N = # '%P# $!' 6* # @!P' 2:' N'M D> 'GE'", F P' @ >#
c+ # "' * ' # #'# ' # # :2G@G,E' B 'H 2:' N'"A>' M2F!'
:>. D::X' ' ' 7 FE2D'@2 " @' $2@P
4 2 5 2 E' " .' A #!' A2?>D>:!

6 @ : ^' 6' B' 6' ' B' H @>@ 9' 8BG :' 4 @8 '
'IH>B' >; H :;' @9' G:' BB9 >6B' FG ' 6 :C :;' G:'
F ;' NFG CG' F>B' 6;:C 6>@ :' 6' G:' @> ; :>6'
6 8:S' ?> 6 ' G:' 6 ? 6> A:' G:' :6 A:
& '' >6;' G:' >CC8B> A:' & !
6>' B' G:'G:>;' ' J:' B' >;' FG CG' FB' ?P
?:; > : 9' > : ' G:' @BC8 :' ;' >' & B' H B 6' B'
F: ?> :;'@9' >?>BC 9B # FG ' A:B' G:' G :' ;B'
68B' ? 68B' >6;' B' >B' 6:D' 6' B8CC:BB 6' ' G:'
H ?:A>' H> ' BB 8B' >6;#% BB> >' &:' C :BH 6;B'
6' ?>69' :BH:C B' ' G:' C>BB C >' &>;:B' ' 8 '
FG ' :' G ?' G:>;B' G:' >;' ' FG CG' G:'@: 6 B ^'
& B' :H G: B' > :' CG ; 9' B8CG' >B' ?> ' H 9' >6;'
>H 78 9' &:' B' C> :;' K' G:'' ;' 6> L' K' G:'
6>' CG : L' H: G>HB' 6' 6:' H >C:' K' G:' > G: ' '
G:' ;B L'>6;' > B ' G:' ;' 'BH B'>6;' ;:? 6B L'
> 6' G:' @:> B' >' 68?@: ' ' :B' FG CG' B: A:' '
C 66:C' G ?' F G' G:' 6 : 6>' : 6B' &:' B' K' G:'
6 ' ' G:' F: ' F ; L' G:' K' ;' ' ;> 6:BB' L'
'K ;:> G L' K G:' 8 : ' ' G:' > ' C 9 L' 8;' G:'
:' G:' CG : ' B:>' ' G B' F BG H' B' . ' '
:CG' (' G:' ? ;: 6' 0 > >' ('FG CG' @:C ?:B' G:'
>A 8 :' G> ;>:>6' @8 9 6 ' C 9' >B' @: 6 '86;: 'G B'
H :C 6' G: :' > :' B ?:' 86;B' ' G 6 6 '
G>' 6:' ' G B' 6>?:B' F>B' M ' ' G B' F>B' 6;::;'
B ' ' F 8 ;' B::?' ' F' > ? B' @:9 6;' >' ; 8@ '
G>' B' G:' ;' ' C8B' ;6' ?>6' ?9 G 9

C :' Q' 2G:>'' /M ,# (' # ML 2"@" 2 ' "@G,>"#'' @ F!' @# ?2B,F' G>'
>#' N G>,2D>F' GE' @ S' 5 >a >4">F' :2=' "A #' @4"!' ' # 2 >'
K @=@#4' G '+ % #&&K :& 2' "A>' A2 >" 4' 2?>:# 2' E ' L
H >#' 2F!' P $&'>WW >5Q' '' 2,5' 2"A>:' 2' "# 2?>:# # G :' @ F' A> 4>'
,2F' : %& ' I!']' Q!' J "A>' 42 4,B# 2 ' # F:@? ' ",K@" # ?@#
N ' # M,>' ?>FM>' "' (?G 2A' @442:FL :2,@G,E' @ 2"A>:' @=>' 2 ' @' +>>'
M' "2' A@,F@#=' B=>:@" 2 !' :> :>L "A>' *# #@E' 2 ' + :' ' "@?, #2 ' '
#> "# "A>' B=G>:' J ' #B :2!' ' I TK!' "A>' @B"A2:%# 9 !' D2,' !' K'
>=G,>=@" 4' 2 ' "A>' M2F' @' 2 ' "A> QT K

- / '

>HH: > 6' ' > 6: ' BR R I' 6' @:' :H 8> '
c B > 6S' FG CG' B' C :> 9' 4 6& / ' K' G:' ' '
6> L

6>' F>B' B8HH B: ;' 'G>A:' >' F :' 6> >' 'FG ?'
>' :F' F ;B' F '@:' B> ;' @: F' G:' @ :' G: 'G8BP
@>6 ;' >' 68?: 8B' H :69' 6:' >@ : 'BG FB' >' B'
'6 6:' ' G: 'CG ; :6' >? 6 'FG CG'G F:A: '6 '
6>?^' CC8 B' ' >69' C: :@ 9' $8' G: :' > :' F '
B 6B' ' 6>' I?:6 6:;' : B:FG: :'FG 'B:: ?':6 :;'
'6 C:' 6:' B' G:' ;' ' G:' > ? BHG: :' '8 '
'FG ?' >' 8 '>CC 86' F '@:' G: :> : ' A:6 ' G:'
G: 'G:> B' G:' 6> 6:' #K "' >6;' ?>9' G:' ; :6 :;'
F G' G:' 2 ' B25 P % ' >6CG 6 > G 6# &:'
:H :B:6 B' K' > 6:BB' L' ' K' G:' 0 :B L' C :BH 6;P
6 ' ' G:' :@8B' ' G:' : : B

6>' ' 6> >' G>B' 6 ' H:C8 > ' CG> >C : B CB'
B' G: ' 6>?:' B' 6 G 6 ' @8' G:' :? 6 6:' ?' '
G:' ?>BC8 6:' 6>' B 2BG:' G: B: ' B' >' ?: :' : :C 6'
'G: 'G8B@>6; ' 'G B' :H G: B' > :' >HH :;' 'G: '
F G' >' B ?H :' ; : :6C:' ' :6;: ' G:' G>B' :> 9'
6 'H: B 6> 9' B:H> > :' ?' G B' :B:?@ 6 ' ?:6 :'
6' 9H >6' ?9 G 9' FG ' B' >' ?: :' :? 6 6:'
??6 ' G:' B' > : 9' ':A: ' ?:6 6:;' 6' G:'
G B C>' >6;' : >HG C>' 6BC H 6B

Ć :@!' ' IJ 5I 1Q @G2:' ?@# =>@ "j +>>' A # # !'
' < $& 9 & -' D2,' ' 'QJJ' D2,' D' ' Q! J!' * M,' : K' A>'
' B #> 'A@D M' 4A@ M>F' "A>' :>@FL F> " 4@" 2 ' '", >' ">a'' @### B >#' "A>'
M' 2' "A #!' @=>' :2=' @ ,B' "2' +' :>@F M' "2' G>' M> B >
: #' 2' ?A@'' @B", 2: "E' ' @=' 2" N B #> '# P# !' D2,' ' ' R !
@?@:>K' :24>>F>F' "2' #BMM>#'' "A@'' * ' '' 0 ,0 #2 ' ' "A>' @B"A2:%;'
: # !' 2:' :@"A>:' O : # !' ?@# @' 42:5 9 !' D2,' ' ' Q'
:B K" 2 ' 2' # !' @ F' "A@'' 2B "

$ ' ' d

$ ' ' 68' B' G:' B:C 6;' ;' ' G:' B ' >; '
&:' B' G:' 68B' BL 6O ' ' K' ;' 68'LS' ' > '
?>BC 8B Y' & B' 6>?:' FG CG' B::?B' ' ?:>6' ?: :9'
K' ; L' ^ B' 8B8> 9' F:;' @9' >' 78> C> A:'
>;J86C ' H BB:BB 6 ' :>' 6 : :B ' ' B' H H B:;' '
:>;' G B' : ?' >B' (I " ' 6' G:' :? 6 6:' (5 "
>' F ;' FG CG' C>66 ' > ' ' :C> ' G:?' C H 8 >'
? ;' FG ' B' 6' G:' :H 8> 6 ' :@ G'
G:' : ?' 5 ' B::?B' ' @:' ?:;' ?' G:' '
S 5 " FG CG' B' 6' 9 >C' ' 1' H8 B8: L' ' K' ?> :' '
:: L' >6;' FG CG' G>B' 6' BB9 >6' 6:> 9' G:' B>?:'
?:>6 6 ' G8B' $ H 8' F 8 ;' @:' >H 9' >6B > : ;'
>B' K' G:' &86 : ' ; L' ' K' G:' ;' H :B ; 6 ' A: '
G:' CG>B: L' FG :' > ' G:' B>?:' ?:' ' ? G ' C ?@ 6:'
G:' ?:>6 6 ' ' K G:' C 678: 6 ' ; L' ' K G:'
:> ' 678: L

6' G:B:' 86;B' ' B' :>B 6>@ :' ' C 6C 8;:' G> '
F:' G>A:' H G B' 6B >6C:' >6' >;? D 8 :' ' G: '
F BG H' 6' G:' G> ;B:>6' : 6 ' $ H 8' B' H P
@>@ 9' G:' $ @ C>' ? ;' G:' 6>' 86;:' '
G:' ? 6> CG9' G:' K' ? G 9' G86 : ' L' >6;' C 678: '
' G:' B>?:' ?:' G F:A: ' G>' G:' B' G B' G: '
;: :;' G:' :H :B:6 B' > B ' >B' G:' B:C 6;' ;' ' G:'
B ' >;' G:' C >BB C>' *8H : ' &:' B' K' G:'
B8H :?: L' K G:' > G: ' ' G:' ;B L' K :' H '
C :> L' K' G:' ;' L' 5 ' ; " 1' G:' 6 ' '
> ' G:' BH B L' K' G:' ;' ' G:' F ; L' >6;' > > 6 '
K' G:' ;' '> ' G:' C 86 :B L' G: :' B' B ?:' 78:BP
6' FG: G: ' G:' B' > : G: ' ' @:' ;:6 :;' F G

' 2# + % #' I Q' ' @ ' ' # "A>' 42 4# 2 F M
N + ' 2:' : ' # N ,2:FP' ' "A>' B#A ">' 2:' @= " 4' ">: =
S5+E: @ ' @ F' "A>' +>= " 4' @AE,25'

:' $: 8B' ' G:' :: ' F : B' F1 ' 6' C: > 6'
:BH:C B' > G: ' C :BH 6;B' ' %: ;>CG ^' 0 G:6'
$: 8B'G F:A: ' B' C> :;' G:' B ' 6 ' G:' 86;: '
' G:' :?H :' ' G:' @8 ;: ' ' $>@9 6 ^' ' B::?B'
6:C:BB> 9' ' 86;: B >6;' $ H 8' ' $: ? ;'
? ;' F:' 6 F ' @8 ' $>@9 64 >6;' $>@9 6'
F>B'C> :;' 6' BB9 >6' ?:B' K' G:' C 9' ' $ H 8 L'
FG :' B' >? 8B' ;: :6C:B (: 8 : ' >6;' G:' 66: '
F> (F: :' 6 F6 ' :A:6' 86;: ' :@8CG>;6:``> ' @9'
G:' 6>?:' ' G:' B>?:' ; ' 6 ;' > > 6 ' F>B'
C: > 6 9' G:' 86;: ' ' G:' 6 ; ?' 4# >6;' G: :P
:' ' $ H 8' B ' G B' :H :B:6 > A: ' G:' F 8 ;' @:'
$: 8B' 86;: ' G> ' H 6 ' ' A :F
G:' CG : ' B:> ' ' $: ? ;<B' F BG H' F>B' 86 '
;:8@ :; 9' H8 ' N : S' ' > 6:G ' ' 6 9' F>B'
G B'C 9' ;:B 6> :;' @9' G:' A: 9' B>?:' 6>?:' >B' G:' ;'
>6;' BH:C > 9' ;:; C> :;' ' G ?' >6;' ' G B' F :' $: B '
@8 ' $: ? ;' B' C> :;' K' ;' ' H > L' >6;' G B'
F :' K >;9' ' H > L' 6' :A ;:6 ' > 8B 6' ' G B'
C 9' ' G:' >C ' FG: : 6' ' F>B' H >C:;' > 8B' >P
; 6B ' >B' F ' @:' G: :> : ' BG F6 ^' C 66:C ' ? ;'
F G' : ' FG CG' ?>9' > 9' @:' : > ;:;' >B' G B'
H 6C H> ' C>H > ' &: :' G:6' G:' F 8 ;' @:' 6> 8 > 9'
B ' F BG HH:;' 8H 6' G B' ;:C:>B:4 >6;' G: :' B::?B'
' G>A:' @::6' B 8> :;' G B' >? 8B' :?H :' C> :;'
4 6(5 "' B ' 6 :;' ' B' F:> G ' UBH :6; 8

H' A>' $B ">:' >,B# ?2:#A >F' ' , 2:> ' !' J!' @ F' TK!' ?A2' @G#2,B">,E'
"A>' M:>@"' ">= ,>' @"' @GE,2 ' #>>=# F> " ># 2,B# ? "A' =:2F!'
4>:"@ ,E' "2' A@D>' G>> ' ' >:2F@4A!' ' G.F> '):'
?A2' , O>? #>' :> :>#> "# ", >' ,@ >"' ' ,> ' . ' I
$B ">: ' +>>' G>,2?!' ' I K <' A>#>' ?@,,# ?>:>' O 2? ' :># >4"5'
M # GE' GEF4 B# 4 ' *B#>G ' D>,E' @# "A>' C) C !' @ F'
6 &' 6 & ' cd!' ' !' @ F' 2# ' "A>' A $: A # & + :' '
A2:> !' ' U!' ' I K!' GE' +"> A> ' , @?, #2 ' ' "A>' @B"A2:%# !'
@F' D24 ' : e c (!' @BF!' n,>:A@ # ?>' D2, ' ' ' QT !' @ F' D2, ' ' J J K
=@E' #@E!' GE' >:2F2"B# ' RK ' 2=L ý 1> ' . ' I
@:>' @,#2' A@,,B#):' K' @ F' 2# N ":@!' ' ITU!' ITQ

"j, *') + ' ' -

>6;' >6 78 9' F CG' F>B' >6' @J:C ' ' 6 :6B:'
A:6: > 6' ' G:' BB9 >6' 6 B ' $:B ;:B' G B'
C: :@ > :;' BG 6:'G:' ; :B' 6 ' >HH:> ' ' G>A:' H BP
B:BB:;' ?>69' G: B' &:'#B' B ?: ?:B' B> ;' ' G>A:'
G>;' 8 ' K'> B'0' ' K' >@: 6>C :B'4L' @8 ' G:' 6 9'
H >C:B' @:B ;:B' : ' FG: :' F:' 6 F' > ' G:' G>;'
@8 ; 6 B' ;:; C> :;' ' G ?' > :' > >G'N ? 8;S' >6;'
8 >@>' N : 8 S' ' G:' B>?:' ?:' G :2 B' >'
;' > ? B'86 A: B> 9' >C 6 F :; :;' 6' G:' 6A C>P
6B' ' G:' $>@9 6 >6' >6;' BB9 >6' 6 B' 6'FG CG'
G:' G>B' >' ? B' C 6BH C8 8B' H >C:' 6' B >' G:'
B::?B' ' @:' 6 : ' 6 9' ' BBG8 4 6' G> ;?>' '
>' >6;' 6>
' $: B' G:' F :' ' $: ? ;' >' 8 ' >CC 86'
F ' @:' A:6' H :B:6 9' 6 ' ' 6 H (G:' BP
B9 >6' &: C8 :B (F>B' 86 A: B> 9' : > ;:;' >B'2 G: '
B 64 >6;' G:' B' :78:6 9' J 6:;' F G' $: ? ;'
6' G:' 6A C> 6B' 6 G: ' >? 8B' ;: 9' G:'
% 6 ;' 6' ' &8 ' B' > B ' ;:C > :;' ' @:'#$: '
? ;<B' B 6' 6' B ?:' 6BC H 6B' 6;::;' >B' K G:'
> G: ' ' G:' ;B L' $: ? ;' ? G ' :A ;:6 9'
C > ?' >6' > ? B' 6 6 :' H> : 6 9
G:' F BG H' ' $: ? ;' 6' G> ;?>' :D :6;B'
G 8 G' G:' FG :' ?:' ' G:' ? 6> CG9' ' G>B'
@::6' BG F6' G>' G:' F>B' H @>@ 9' G:' ;: :;' ? ;'
FG B:' >H G: B B' F 8 ;' > :' H >C:' BG 9' > : ' G B'
;:C:>B:' 8 G' G:' :> :B' ? 68?:6 >' 6 '@8 '
G ?' >' :?H :' >' : 4 >6;' 8 > >`8' 6:' '
G:' > :B ' H> ;' G ?' :' B>?:' G 6 8 ' >' : 8 '
8 G' > B ' :78:6 9' ?:6 6B' G ?' 6' G B' 6BC HP
6B' 6' C 66:D 6' F G' &8 ' G:' % 6 ;' FG ?'
G:' C> B' G B' K' : ;:B' B 6' L

$

$: B' G:' F :' ' $: ? ; ' H :B:6 B' >' B 6 ' C 6 >B ' ' 6> >' G:' F :' ' 6>' G:' B' >' ? :' G>6' G:' ?: :' :?> :' H F: ' ' $: ? ; ' @: 6 ' 6' >C ' >' B:H> > :' >6;' A: 9' ?H >6 ' ; : 9 ' &: ' C ?? 6' :' B' K' G:' 9 ' ; ; :BB L' 6' G> ; :>' G: ' 6>?:' F>B' %8 >'# ' 66 > (@ G' F ;B' B 6 ' 9 6 ' K' G:' >;94L' 6' BB9 >' BG:' F>B' $ >' ' $ >' H 8 >' G:' :? 6 6:' ?B' ' $ ' >6;' $ 8 ' H 8 ' &: ' >A 8 :' :' F>B' K' G:' % G: ' ' G:' ;B L' ' K' G:' % G: ' ' G:' :> ' ;B4L' FG:6C:' ' B' : >@ 9' C :> ' G> ' BG:' F>B' G:' K' :>' 9 <>' L' F BG HH: ;' > ' & : >H B' 86; : ' G:' >6' >HH: >P 6' ' %>@ K' G 8 G' C ?? 6 9' :H :B:6 : ;' >B' G:' F :' ' $: ? ; ' >6;' ? G: ' ' G B' B 6' 6' ' 6 H ' BG:' B' > B ' C> : ;' K' G:' F :' ' 6 L' >6;' 6' 6:' H >C:' K' G:' F :' ' BBG8 L' &: ' G: ' :B' > :' K' G:' >;9' ' $ 6> L' K' G:' >;9' ' H8 =<' K' G:' u8::6' ' G:' >6;' L' ' K' ' G:' >6;B L' K' G:' :> ' >;9 L' K' G:' ; ; :BB' ' F> ' >6f ' @> : L' >6;' K' G:' 78::6' ' :C86; 9 L' G:' B::?B' G8B' ' G>A:' 86 : ;' G:' > @8 :B' ' G:' * ? ' G:' : :B' ' :?: : ^' G:' $: 6>' >6;' :A:6' G:' >6>' ' G:' C >BB C>' 6> 6B4' ' BG:' F>B' >' 6C:' G:' 78::6'

' > 4>' "A>' E, ""@' B . ::@K' 2 ' >:2F2"B#' ' I I!' A K!' @ F' >:A@ #' "A>' 2, #' F . #K' 2 ' 4 ' @=@#4>5' = # /,< .# & 9 &' & D2, ' ' ' JI!' 2">' IJK ' "' A@#' G>> ' B#B@,' "2' F>: D>' "A>#>' ?2:F#' :2 "' "A>' >G:>? C!' N' M> > 5@:>' GB"' 2' # = ,@:' ,B2" #' 2B F' ' > "A>:' ##B @ ' 2:' @GEL ,2 @ ') ' ' @:@ " 4' @GE,2 @ ' #' " ,>' >a@4"' >^B D@,> "' 2 ' ' ' +>=L " 4' ##E: @ ' 2"A' # M E' N' ,2:F!P' ?A ,>' ' @ F') ' # M E' N' ,@FE P

H) ' #' N "Ao' =2"A>:' 2 ' "A>' M2F#!P' :2=' $ ' 2:' $!' N' =2"A>:!P' @ F' !' N' M2F' P' +4,@D2 4' (& H ' *"E=2,2M #"#' A@D>' G>> ' Bb#,2F' GE' "A>' @=>' A4@' < BK p 2 >' 2 ' "A>' B=>:2B#' @ >,,@" D>#' 2 ' "A>' N :o "' 2FF>##P p ?A2' #' O 2? ' @,#2' @#' >:>#!' EG4,>' 2:' EG4G4!' @">:' 5' FE=> >!' @M @' O,@">: ' 2 @' >@!' >@' A:EM @!' #!' > @!' @ F' 4,,B#' >:A@ #' "A>' >a ,@ @" 2 ' #' "2' G>' 2 =F' ' "A>' B=>: 4@,' #E=G2,' 2 ' "A #' M2FF>##!' ?A 4A' ?@#' IQ!' :2L 2B 4>F' # B ' GE' "A>' A@,F@= #

G:>A:6' G:' ;;:BB FG '?> :B G:':> G' : :' G:' ;;:BB 'F>'>6;' @> :'>6;' G:' ;;:BB 'G8G ' 6 ' 6' G:B:' > :'C>H>C :B BG:'>HH:> B'G F:A: ' 'G>A:' @::6' >;8> 9' B8H: B:;:;' @9' B@ > ' FG ' B ?: ?:B :A:6' >HH H > :B G:' G G:' >6;' ? :' ; B 6C A:'>HH: > 6B

G:' F BG H' '$: B' F>B' F ;: BH :>;' >6;' G: ' :?H :B F: :' A: 9' 68?: 8B' ' :CG' N0 > >S' BG:' F>B' F BG HH:;' 6' G:' B>?:'H > ?' '6 ':A:6' 6' G:' B>?:' @8 ; 6 ' F G' 6>' ' >6:G' ' H8 ' N : S' BG:' BG> :;' 8 9' 6' G:' G8B@>6;<B' G 6 8 B' G:'G>;'>'BG 6:'>' 'N%8 G: S'>6 G:' >' 18@:B 'Np: G8 S'>6;' >6 G:' 8 B ;:' G:' F> B' ' $>@9 6' ?:' ' G:B:' :?H :B F: :' A: 9' >6C :6 ' G B:'>' 02> >' >6;' :' @: 6 ' @8 ' @9' 8 G' FG :' G>' >' %8 G: 'F>B' : G:' @8 ' ' :H> :;' @9' B? ;> 6

CC ; 6 ' ' 6:' :C ;<$: B' F>B'>';>8 G :' ' 6>' 'F>B' :BH:C > 9' >B' K' u8::6' ' H8 'L' G>' BG:' F>B' G:2F :' 'G:'B 6' 6' : G>HB' G B' ;:>' :F' 8H' 8' ' G:' >C' G>'>' H8 ' G:' F ' F: :' >BB C > :;' : G:' 6'>'C ??6' F BG H' '>HH:> B' ' G>A:' A:6' B:' ' B ?:' ' G:' :: ' >; 6B' F G' :BH:C' ' :? >? B'FG 'F>B' ?>;:' 'C 6 >C' >6' 6C:B 8 8B' ?> > :' F G' G:' A6' B 6' 69>B' > G 8 G' 6 ':DH >6> 6' C>6'>' H :B:6'@:' A:6' ' G:'>HH C> 6' '$: B' ' G>'6>?:

-' 2:'

G:' G ;' ;' ' G:' B' >;' F>B' &:>' ' & >' G:' B' N< z' ' >?>BC 8B ^' & B' >HH: > 6' B

' A>' #4: " 2 ' 2 ' "A>' 2 > 5' $!' D2,' 'H' Q!' 2">' I' =2B"A>F' , 2 !' 2?' ' "A>' : " #A' H' ('+ % #' I' '4 B#>B=' +>>' "A>' @B"A2:%# 9

H: G>HB' @:B ' :6;: :;' 6 ' :: ' @9' G:' 0' T ' &G >; 8B (G:' 6>?:' A:6' ' G:' ?9B C' >6 ?> ' G> ' ?>6'G> ' BG' FG CG' C>?:' 8H' ?' G:' : B >6' 8 ' ' :>CG' >B 6 ?9' >6;' : : B' ' G:' B ' B: P : B' 6' G:' 8HG > :B' >6;' B ^' ' B' H: G>HB' C 6 > 6: ;' > B ' 6' G:' F ;' @9' FG CG' $: B8B' ; :P B 6> :B' G B' B>?:' C :> 8 : (>66:B' N< >A=J= ' #(' FG CG' ?>9' @:' :DH > 6: ;' >B' . 6 " ' K' G:' ;' & > L' G: :' > :' 6 ' ?:>6B' ' B C 9' ; : : ? 6 6 ' G:' H :C B:' ?:>6 6 ' ' G:' F ;' 6' $>@9 6 >64 @8 ' ' B' H: G>HB' > F>@ :' ' C 66:C ' ' H A B 6> 9' F G' G:' >@ C' . ." FG CG' B' > ' 6C:' K' :' L' >6;' K' >' B: H:6 L' B 6C: ' >CC ; 6 ' ' G:' @:B ' >8 G 9' K' G: :' > :' A: 9' B 6 ' 86;B' ' C 66:C 6 ' &:>' ' & >' F G' G:' B: H:6 ' ' C H 8 :' >6;' G:' > >P ; B> C>' >; 6B' ' G:' :' ' 6 F : ; :' >6;' G:' : :' ' : L' ^

& >' CC8H :B' 6' G:' B ' >; ' G:' H B 6' FG CG' 6' G:' C >BB C>' ?9 G 9' B' : ;' G9' B: ; 6' ' :H 86:4 >6;' 6' B ?:' :BH:C B' G:' C :BH 6;B' ' G ?' &:' B' K' G:' ;' ' G:' :> G L' J8B '>B' :H 86:' B' GI ; 4 G:' B' K' G:' 6 ' ' A: B4L' >6;' G:' C ?:B' ?' G:' B:>' ' :>CG' G:' $>@9 6 >6B4 @8 ' G:' B' 6:A: ' C> : ;' G:' ;' ' G:' B:> L' G>' :' @:P 6 B' ' 6' ' 6 H ' & >' B' K' G:' ;' ' G:' >@9BB L' ' ' K' G:' :> ' ; : :H L' FG CG' ; :B' 6 ' B: : ?' ' @:' G:' B:>' @8 ' B ?: G 6 ' ; B 6C ' ?' ' & B' ? B ' ?H >6 ' :B' > :' G B:' FG CG' 6A:B ' G ?' F G' G:' CG> >C : ' B ' H ? 6:6 9' @ JJ @ ' 8 ' 6' :' >6;' >66:B ^' ' G:' ;' ' BC :6C:' >6;' 6 F

C ' A2" ' : %%&' &% &' @ P
' IQTU C + :' ' @?, #2 ' ' "A>' @B"A2:%#
' 4:2#') : ' I!]' ' @ >#' A@#' 9 ! D2, ' ' ' J
G>> ' 2"G> D #2' >a ,@ >F ' "' A@#' % ' >,, F ' I ' #' 4 ! @ F' >:2#'
G>> ' "A2BMA"' "2' # M' E' N' M D> ' GE): ' I!]' ' A>' ,@"">:' ?: ">:' M@D>

:; :' &:' B' K' G:' 6 : :6 ' 8 ;: L' '>CC ; 6 ' ' >6 G: ' 6 : H : > 6' K' G:' 6 : :6 ' U' V K G:' :>CG: ' ' ?>6 6; L' K' G:' ;' '86;: B >6;P 6 L' 6:' 'G B' :?@ :?B' B' G:'K' F:; :'L' 'K'> FP G:>; L' G:' :BB:6 >' : :?:6 ' 'C86: ?' F 6 ' FG CG' B::?B' ' @:' >BB 6:;' ' G ?' >B' G:' 6P A:6 ' '>' :>B ' G:' H> 6' ' G:' G> ; e>6' > HG>@: K' 6 G: ' B' G:' B: H:6 ' FG CG' CP C8H :B' B 'C 6BH C8 8B'>'H >C:'>? 6 ' G:'B9?@ B' ' G:' ;B' 6' G:'@ >C ' B 6:B' :C ; 6 '@:6:P >C 6B' >6;' FG CG' B ?: ?:B' >HH:> B' 8H 6' G:'C9 6;: B' G B' B9?@ 'G: :'>B' : B:FG: :' B' :?@ :?> C' ' B8H: G8?>6' 6 F :; : (>' :C ;' ' G:' H ?:A>'@: : ' G> ' K' G:' B: H:6 ' F>B' ? :'B8@ :' G>6' >69'@:>B ' ' G:' : ; L'K' G:' B : > ' 6>?:' '& >' F>B' 1 ? ?8 '4 >6;' ' B' B8BH:C :;' G> ' 6' G B' >BH:C 'G:' F>B' ;:6 :;'F G' G:' C 6B : > 6' >C ' FG CG' B' H: G>HB' G:' 1 ?>G' ,- .' ' C HP 8 :< $:B ;:B' G B' CG : 'CG> >C : ' ' K' ;' ' 6 FP :; : L' & >2 B' > B ' K' ;' ' : L' >' C>H>C 9' 6' FG CG' G:' B: H:6 ' F 8 ;' > > 6' 9' B9?@ B:' G ? ^' &:' F>B' :F B:' K' ;' ' 9 L' >6;' K' ;' ' A 6 L

"A>' 2,,2? M @442B '' 2 ' @ 4# p' ?@#' :>@,,E' !2:' ' +>>' G>,2?!' # I " # !' 5 I '' ' ! "#R ' ' I R K' H N +2' >:2#B#' I'#' 4 ' ' '

@: 6 ' >B $: B8B B> ; ' G:' :> ' A: ' ' ;' B ' ?>6 ^

G:' ? 68?:6 B ; ' 6 ' C 6 > >' ?8CG :A ; :6C:' ' G:' :> 9 F BG H ' & >' 1 B 6>?:' >HH:> B 6 >' A: 9 >6C :6 ' B 6:' >@ :' @ 8 G ' ?' %8 G: ' N S4 @8 ' G: F B:' G B C > ?' ' @:' >CC 86 : ;' 6:' ' G:' H ? :A> ' ;B ?8B ' :B ' 6 G:' :B ? 69 ' $: B8B >6 ;' & : > ; 8B ' FG ' :H :B:6 ' G ?' >B 6 F6 ' G:' DB yB: : B ' &:' B: : ?B ' G>A:' @: :6 G:' 8 : > 9 ;' ' B ' . " FG CG B ; :' ' G> >D C> B : H B2 N< : ' / BS' ' K & :><B C 94L @8 ' G: :' B 6 ' :A ; :6C:' G> ' # G B F>B >' A: 9 >6C :6 ' H >C: ' G:' BB9 >6 6 B @8 ' G ?' : ?H :B > ' BBG8 ' >6 ;' > >G

& >' G>;' >' F :' M 64 " ' FG ?' >' : F' F ;B F ' @:' B> ;' H :B:6 9 ' G: ' ? B ' C: :@ > : ;' B 6 F>B %: ;>CG ' $: %: ;>CG ' G:' $: 8B ' $>@9P 6 >6 ?:B ' B 1 ? ?8 ' & >' F>B > B ' G:' > G: ' ' :@ ' FG B:' 86C 6B @:> ' >' :6: > ' :B: ?@ >6C:' ' G B F6

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>A 1 6>' G:' F :' ' & >' B C :> 9 G:' >8 :' ' >A C N >>= S=S ' >?>BC 8B ^' FG ' F>B G:' F :' ' B >6 ;' ?H G: ' ' $: 8B N$: %: ;>CGS ' &: ' 6>?:' B G 8 G ' ' B 6 9 K G:' CG : ' >; 9 L ^ G:

C +>> "A> @###@M> 4 ">F @" B, , > M"A ' 2"> I 442:F M "2 #L #E: @ ' 2" 2 #! 2@ F F 2" 42 > A # :>#> "# "2 = A2 2 ' "A> O M# 2 ' ##E: @ #@E# p N A2 #> #># 2 '#>> M! A>@: M! @ F B F>:#"@ F M! ?A 4A 2@ @, ,2""> F "2 "A> ?A2, > U ' M2F# 2 ' A>@D> ' @ F >@:"A! "A>E ' "A> B, >## 2 ' "A> :' A>@:"# M:@ ">F "2 => P

' $ @ # ' @:"A ' Q N G ' + % #& I ' #' 4 ' 2 ' " ' % 2B 7@j @D7 :' ' ' ' , ' ' " ' . 2D 1 + :' ' @?, #2 ' ' "A> @B"A2:%# 9 ! D2, ' ' ' I! 2"> I 2D>:#@ F B #> 'F>: D> I * (:2=' "A> >G ' " ! N "B F4:>!P @ F ">:L :>" " N #": >!P 42 = @: M "A> +E: @4 @ & +>> B #> %# '# ! D2, ' D ' IQQ! IQ K

"j5 *') ' ' -

G>B' 6 ' ; B 6C A:' :B' ' ?H >6 ' H B 6' 6' G:' >6 G: 6 ' @8 ' :' 6> >' > :B' G: ' G8B@>6 ; <B' :H P G: B' F G' >' ? : :' ; B 6C 6' ' :6 ; :

' ' & 11

G:' B' ;' ' G:' B:C 6 ;' >;' B' 6' ' &8 ' G:' ? 6 ; : 9' ' B' 6' C 6 ; :BC:6B 6' ' : : ' 6 6B' G> ' $: B8B' 6A: B' G:' 8:' G> ; e>6' ; : ' >6 ;' H >C:B' G:' B86' @: :' G:' ? 6' 6' G B' :68? : > 6' ' G:' G:>A:6 9' @ ; :B # G> ; e>6' ?9 G 9' A:B' >' A: 9' ; :C ; : ;' H : : :6C:' ' G:' :BB: ' 8? 6> 9 ' H: G>HB' @:C>8B:' G:' 6 G B' > :' ? :' H :>B>6 ' G>6' G:' ;>9B' 6' G ' C 86 :B' 0 G' :P BH:C ' ' G:' 6>? :B' ' G:' ; ' F:' ? >9' @B: A:' G> ' 6 ' G:' BB9 >6' ' : ? C' : ? ' B' >' F ;' ' 78 :' 86C: > 6' : 9 ? 9 ' FG CG ' G F :A: ' B' 86 ;' >HH : ;' ' G:' ? 6' 6' ? >69' : ? C' >6 8> :B' 4 ^ FG :' &8 ' FG CG' B' G:' G> ; e>6' ' &>? C' 6>? : ' B' H @>@ 9' ?' >' ' C 6> :' ' G:' &:@ : F' A , '' 69' K' A > : L' FG:6C:' B' ; : A: ;' G:' : ?' B ? : ? :B' 8B: ;' ' B 6 9' K' >6' >6 : L ^(GL '' KE2'' K' >' F> CG: L

G:' :B' ' &8 ' > :' 8B8> 9' B ? : FG>' A> 8: ' &:' B' K' G:' CG : L' 1' G:' H F: 8 L' K' G:' ;' ' BH B L' K' G:' FG ' ; F : B' 6' G:' :> ' G:>A:6B' 4L' ' G9H: @ C> 9' K' G:' CG : ' ' G:' ;B' ' G:>A:6' >6 ;' :> G L' K' G:' 6 ' ' G:' ;B L' >6 ;' :A:6' K' G:' ;' ' G:' ;B L' ? : ? :B' G F:A: ' G B' :B' > :' ? :' ; : 6 :' >6 ;' H> C8 > ') >B' B 9' FG:6' G:9

>:2#') : ' I ! ' J 2 ' "A>' F2,# 2 ' ,@: :@ ' '' @ F' '' ?@# C + ' ' # B#>F' 2:' "A>' 22 ' ' "A>' ">: =' B#>F' 2:' 2 F@E' GE' "A>' > F } @ ' @ F' +E: @4' @'' "A>' :>#> '' +@A 5@ # @# ,@">' @# "A>' T"A' 44B"B E F@E' ' '' # "A>' @=>' n D2 ' "2' "A>' E # ' @ >' D ' I ! IR! @ F' ' 22 512F' '+" ' $@=>#' 2 '+>:B '#' , #" "A>' +E: @4' , "B:ME

' - + ' ' 7 ! * ' 51 ! "j [

@: 6 ' ' G ?' 6' :BH:C ' ' @ B' @: 6 ' @:' C: :B > '
'Q? 6> 9 (' ' K' G:' @ G L' K' @:' BG 6 6 L' K' @:'
;' ' @:' ? 6 G>6 ; ' B:C 6; 9' FG:6' G:9' :H :P
B:6 'G ?'>B'H :B ; 6 < A: '@8 ; 6 B'>6;'> CG :C 8 : '
FG CG' G:' G> ;6:>6B' >HH:> ' ' G>A:' H >C: ;' 86; : '
G B' BH:C > ' B8H: 6 :6; :6C: ' 6' G B' C 66:D 6' G:' B'
C> : ;' K' G:' B8HH 6 '> CG :C L' K' G:' B :6 G:6: '
' C> 6B L' >6; ' ? :' :6: > 9' G:' ;' '
@8 ; 6 'L' N$: `86>S<' $ C B' G:' G> ; :>6' @8 ;P
6 ' ?> : > ' F: :' ' C 8 B:' 86; : ' G B' H :C 64'
>6;' G:' B 6' FG CG' ; :B 6> :B' G: ?' B' > B ' G:' B 6'
' G:' ? 6 G' A: ' FG CG' G:' F>B' C 6B ; : :;' ' :D: '
H> C8 > ' C> : ^' & B' ; 6> 9' B9 ? @ ' B' G:' C :BC:6 '
' 6:F' ? 6' FG CG' B' C ? ? 6 9' :H :B:6 : ;' >B

> :' @8 ' ' :D : ? :' G 66:BB' 4 G 8 G' 6

F G 8 ' >' C: > 6' A> : 9' 6' G:' ?B'

G:' ? B ' C8 8B' >6;' G:' ? B ' H8 : 9' C 6A:6 6>
:H :B:6 > 6B' > :' >' 6:> ' B: ? C C :' 'y= ' >6;' >6
? > 6' ' G B' B: ? C C :' ? : ;' @9' G : :' B > G '
6:B'K ' y = ' G:' 8 ? 6> : ;' H> ' ' G:' ? 6<B'
; B ' B' > F>9B' 8 6: ;' ; :C 9' F> ;B' G:' G ` 6 '
>' H B 6' @8 ' > : 9' B: :6' 6' 6> 8 :
G:' CG : ' G> ;>J>6' : ? H :' ' G:' ? 6 ;' F>B' > '
' ' &8 ' N%8 G: S ' >' C 9' FG CG' H @>@ 9' ; : A: ;'
B' 6> ? :' ? 'G ? ' >6;' FG CG' F>B' 86; : ' G B' BH:C >

M A>' "> ' [' =@E' >:A@ # G>' # @,#2' "A>' # M ' ?A 4A' :> :>#> "#
42 >4">F' ? "A' "A>' >G ' N' 2: = P' N' G: 4O# P
= ' # 42= =2 ' ' ##E: @ ' 2:' H' A>#>' 2: =# @:>' "@O> ' 4A > ,E'
N' GB ,F ' P :2=' "A>' > M:@D M# 2 ' 4E, F>:#
N + ' # >a :>##,E' 4@,,>F' N' "A>' M2F' BG, #A>F' GE' "A>',@">' : ' B,, =2:>
2 ' "A>' = 2 "A' + D@ ' 2 ' A@ E' @=>' Ć '" # 2" B 42= =2 ' 2:' "A>' #>L
@ F' '" =@E' A>' #B# >4">F' "A@'" # 42 F' #E,,@G,>' ' @ ' ##E: @ ' 2:' @L
@=>' # @' =>:>' 42 ":@4" 2 ' 2 ' + :@ ' GE,2 @ ' M2F'# @=>' "2' ,(>' F:2 4F'
A>' # M ' B#>F' 2:' "A>' = 2B"A' + D@ @# B = 2:"@ " ' 0 >' A@D>' G2"A

"j+ *' ++ ' * '

H :C 6' :' G>;' > B ' BG 6:B' > ' $>@9 6' >6;' $ B HH>' >6;' :F B:' > ' > >G'0>6;' 8 > 6>' N1G B>@>;S' :F' ;: :B' >HH:> ' 'G>A:' @::6' F P BG HH:;' F G' B8CG' C 6B >6C9' @9# G:' G> ; :>6' 6 B ' & B' :>' :?H :' >' ' F>B' @: 86' @9' 8 G' >6;' 6 BG:;' @9' G B' B 6' (G:' F ' ? B ' >6C :6 ' '> ' G:' ? 6> CGB' > : ' 6' G:' B: :B' F:' 6;' G ?' 6' B8CG' G 6 8 ' G>' :A: 9' 6 <B' 6>?:' ;8 6 ' B ?:' C:6 8 :B' C ?H B:B' G:' 6>?:' ' G:' ? 6 ;' 6' ' 6' G:' :B > 6' ' G:' G> ;?>6' H F: ' G:' B' > > 6' 6' G G' :H8 : ' :@8CG>;6:``> ' ?:6 6B' G ?' F G' G 6 8 4' >6;' >@ 6 ;8B ' G:' >B ' 6> A:' ? 6> CG' :B :B' G B' BG 6:' > ' '>6;' >CC8?8 > :B' 8H 6'G ?' G:' ? B ' G G B 86;6 ' :B #

G:' ? 6 ;' B' C> :;' 6' ? :' G>6' 6:' 6BC HP 6 ' G:' : ;:B ' B 6' ' $: ? ;' &:' G>;' >' F :' N G:' ? 6 ;;:BBS' FG B:' :' F>B' 1' G:' :>' >;9 L' >6;' FG ' B' :78:6 9' >BB C > :;' F G' G ?' 6' G:' B B ' G:' >6;' G: ' G8B@>6;' F: :' C 6J 6 9' G:' 8 : > 9' ;: :B' ' ' '& 8 4 >6;' >' H> C8 > ' H P 6' ' G:' :>' :?H :' G: :' F>B' ;:;C> :;' 'G: ' G 6 8 ' :BH:C > 9' &: ' K > L' ' K >@: 6>C : L' A CG' F>B' B:H> > :' ?' G>' ' 'G: ' G8B@>6;' F>B' H @>@ 9' >B' F: ' >B' G B ' ;:H B :;' 6' G B' B>6C 8> 9' ' @ :' G:' :' 'K' G:' :BB: 'G2 G L' FG :' G B' F>B' C> :;' ':?HG> C> 9' K' G:' G L

' @ F' !' G2"A' '' ' @ F' G2"A' A #' @ F' A4 !' I%' AB#' ?>' = F'' >a >4'' "2' F' G2"A' 9 ' @ F' @ &' '' # 2'' >:A@ #' @ :22 '2 ' '' 4' 42 >a 2 p GB'' #'' ,,' '' # @ ' @:MB=> '' ' @D2B:' 2 ' '' p "2' F' "A@'' ?A> ' :' 4A@ M>F' "#' @=>' "2' '' @: @ * 2,>=' @ ' ,>a' 2,EA #"'):' K!' "A>' >?' @ 4,, "2

?@#' @' F>: D@" D>' :2=' @ 2"A>:' ?2:F' ;* $!' :@G K' #M E M' N' "A>' =22 P' + :' ' *@?, #2 ' ' "A>' @B"A2:%# 9 !' D2, ' ' ' J I J K ' 7@G2 FB# 4@,,# A =' N' "A>' 4A > ' 2 '"A>' M2F# 2 'A>@D> ' @ F' >@:"A!' "A>' 0 M' 2 ' 'M2F#!' M2F' 2 'M a,#!' A>' ?A2' F?>,,# '"A>' M:>@'' A>@D> #!P' 34

"jX

' - + ' ' + +

' '

>6' ' >6B ' G:' B86 ; ' F>B' G:' B:C 6;' ?: >G: ' ' G:' B:C 6;' >; ' G:' ?> 6' : : ? :6 ' ' G B' 6>? :' B' H @>@ 9' C 66:C : ;' F G' G:' ' " 2*C' FG CG' B' 6' >@ C ' >6;' H: G>HB' 6' &:@ :F ' K'@ G L ^ &:6C:' F:' ?>9' H: G>HB' C ?H> :' 8 ' F6' F ;' K B86L' F G' G:' G> ;>J>6' K >64L' ' K B86L' B' ? B ' : 9' C 66:C : ;' : 9? C> 9' F G' K' BG: :6L' >6;' K' BG 6: L' G>?>B' ' G:?:BG ' G:' :? C' :' ' G:' ; ' B' > : G: ' B:H> > :' >6;' ; B 6C ' B 6 9 6 ' >B' ' ; :B ' G:' ! ' C:' ' G:' B86 ' >6;' 6 ' G:' @ >6C9' ' G B' G ' ' >C:' ' G:' &>? C' 6>?:' >HH:> B' 6' G:' F: 6 F6' C 9' $: GB>6 ^' FG B:' >HH: > 6' B' ; :C > : ;' @9' 8 : ' B HH8B' ' B 6 9' K' ; ?8B' B L' K' G:' G 8B:' ' G: B86 ÆQ

G:' :B' >HH : ;' ' G:' B86 ;' G>A:' 6 ' :6' ?8CG' ; :C ' : : :6C:' ' G B' HG9B C>' H F: B' ' > P @8 :B ' &:' B' C> : ;' 6; : : ; ' 6' B ?:' H >C:B ' K' G:' ;' ' : L' K' G:' G ' ' G:' ;B L' K' G:' 8 : ' ' G:' ;>9 L' >6;' K' G:' FG ' 8? 6:B' G:' :DH>6B:' ' G:>A:6' >6;' :> G L' $8 'C ? ? 6 9' G:' B' : G: ' BH :6' ' 6' >' ? :' :6: > ' F>9 ' >B' K' G:' : :6 ' ' > ' G 6 B L' K' G:' :B >@ BG: ' ' G:>A:6' >6;' :> G' 4L' ' ' BH:C >

' ' >G:>?' # @ !' # B#BL @,,E' ":@ #,@">F' N' #4@:,>"!P' GB'" #2=>' ,>@: >F' $>?# #BMM>#'" "A@'" "A>' ":B>' =>@ M' # G: MA"' +>>' >?=@ %# 9 ' - % ' @F' D24 ! @ F' 42=L @:>' 1>#> B# K '):2=' 7%' "9!' N' = #"=:> P' +>>' Ba"2: '@F' D24 K %' $2#A' aD ' I I " $BFM' ' R' " I' +@=' aaa ' I !' 34' A>' >G:>?' 2:=' # : !' 2: , !' : P & A>' / . ' M D>' B 25B>!' F4:@FD!' F":> %b!' @ F

: Ya & $2#> AB# A@# : '@ F' : " & A>' @,=BF' 42 ":@4"# "A>' ?2:F' "2' : !' _ % ' " @ F' "A>' >aL #" M' @=>' # :' _ & # +4E"A25' 2, # "A # 4 "E' ?@# 0>,,' O 2? ' "2' "A>' 1:>>0# @ F' 2=@ # Ć +>>' "A>' #=@,,' ":>@" #>' 2 * BM>5' # B#!' G ' - % ! 34 ' ' "A>' 2, 2' >F " 2 ' 2 ' "A>' Eb@ " >' #"2: @ # D2 ' aa ' #BG' K ' N' +4E"A2 ?, # 2 D "@#!' 1@, , D>' =>":2 2, #!' ^B@# >'" 4", #@ !' F' >#"! F2=B# #2, # P

"5, *') + ' ' -

86C 6B > :2>BB 6:;' ' G ?' G:9 > :' C 66:C :;'
F G G B B8HH B:;' K ? A:L' H F: '>B 6BH 6 'F: '
:' G 8 G B 6 G:' ? 6;B ' G:' 6 B' ; :C 6 '
>6;' >A 8 >@ 9 6 8:6C 6 ' G: ' :DH:; 6B4 '
> > 6 '>B G: H 6 ' G:?' ' ; BCG> :'>69 ' G:' G: '
>C A:';8 :B ' 9> 9' >6 B K G:'B8H :?:' 8:'
FG ' C>B B >' >A 8 >@ :' :9:' 6 :DH:; 6B L' K G:'
A>678 BG: ' ' G:' 6 <B :6:? :B L' K G:' @ :> : 8H
' HH B 6 L' &:' K C>B B G B ? A:' 6 8:6C:'L'
A: ' G:' ? 6> CGB' >6;' C>8B:B G:?' ' K >BB:?@ :'
G: ' CG> B<'>6;' F> BL (G:' :B G F G
G: '> ? :B'>6;' :6>@ :B G:?' ' :D :6;' G: ' ; ? P
6 6B (G:' CG>B:B G: ' :6:? :B @: :' G:?' C>8B:B
HH B 6 ' C:>B:' >6;' @ 6 B G:?' @>C ' F G
A C 9 ' G: ' F6 C 86 :B' $:B ;:B G B' G:'
G: HB G:?' 'BF>9 G:'BC:H :' 'H F: '>6;' ' 8:'
A: ' G: ' B8@J:C B F G >8 G 9' ' B::?B G> '
?' @B: A 6 ' G:' ?>6 :B'> :6C9 ' G:' ?> : >'
B86 6 B ?8> 6 '> ' G:' 86C 6B ' 6> 8 :' G:'
G> ;e>6B C>?:' ' G:' C 6C 8B 6 G>' G:'B86 ;'
:D: :;'>'B ? >' 6 8:6C:' 6 G:' ? 6;B '?:6'>6;'
F>B G:' :>' ? A:'> :6' 6 G8?>6 G B 9
G:' CG :'B:> B ' G:' B86 ;<B F BG H 6 G> '
;e>' >HH:>' ' G>A:' @::6 G:' F ' J ? 8B C :B '
> B>' ' >B> ' >6;' HH> >' G:' :>' :?H :'
' G:' $86' C> :;' $ > >=' >' G:' ?:' H >C:'
F>B : :C :;' @9 8 G' :H> :;' @9 ? :' G>6 6:'
' G:' > :' G> ;e>6 ? 6> CGB' >6;' C ?H : : 9
:B :;' J9 :@8CG>;6:``> ' ' HH> >' G:'F P
BG H ' G:' B86 ;' F>B B ' H o; ? 6>6 ' G>' @9 '
;:68B' H @>@ 9 F 6 ' $: B8B' C> B G:' F6

' '" ?2B,F #>>=' :2=' "A # @=>' '"A # " ",>' G>' 42 >4">F ? "A' "A>'
"A@'" + ' ?@# @,#2' @' " ",>' B F>:' *ME " @ ' 5=' 2:' 5: !' N "A>'#B IP'
?A 4A' ", >' +B ' ?@# O 2? ' ' A@,5' ?A> 4>' :2G@G,E' "A>' >G:>?' A@5
F}@ ' "A>' >@:,E " =>#' @E' 2" :@2A9

&: H B ^' G: :' C>6' @:' :' ; 8@' G>' G:' ; >? ?: :CG' ' K' : 6 L^ FG B:' F BG H' G:' :HG> A :B' N ' H: H :' ' HH> >S' 6 ;8C: ;' 6 ' >?> >#' F>B' G B' ; : 9' HH> >' B' C> : ;' E 5 ' ' ! '" K' HH> >' ' G:' 86 L' 6' A> 8B' 6BC HP 6B' >6 ;' H BB:BB: ;' >' : ?H :' ' G:' ;' FG CG' F>B' :H> : ;' >6 ;' >; 6: ;' @9' ?>69' ' G:' >6C :6' G> ' ; :>6' 6 B' >B' F: ' >B' @9' :@8CG>; 6: ``> ' >6 ;' >@ 6 ;8B

G:' :6: >' H :A> :6C:' ' >6<B' F BG H' B' 6; P C> : ;' ? B' C :> 9' @9' G:' C9 6; : B' :F' C ?P H> > A: 9' ' G B:' F CG' G>A:' >69' ; A 6:' B9?@ ' 8H 6' G: ?' > :' F G 8' G B' G B' B9?@ ' B' : G:

>' B ?H :' C C :' N ' >' 78> : : ;' ; B ' ' >

8 >9: ;' @' '>' ? :' : >@ > :' CG> >C :

>6' ' >6B' G> ;' >' F :' ' 8 >' ' 686 ' ' FG ?' ' 6 F' FB' ' BH:>

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' 8 >' ' 686 ' F>B' G:' : ?> :' H F: ' ' G ' B86' >6 ;' F>B' C ? ? 6 9' >BB C > : ;' F G' >6' 6' : ?H :B' >6 ;' 6A C> 6B' &: ' 6> ?: B' > :' ' 86P C: > 6' B 6 C> 6' :DC:H ' :' B:C 6 ; ' 8 >' FG CG' 86 ; 8@ : ; 9' ? :>6B' K' :> L' @: 6 ' B ' >6B > : ;' 6' G:' A C>@8 > :B ^' ' B' B8BH:C : ;' G>' G:' G : :

Ć GEF> '): ' I' ' +E 4>,, ' D2, ' ' Ć ' 7 M#' aD ' I
' R ' ' # :> F>:>F' GE' ' ', 4'
H' O >:!' C %@!' @F' D24' D24@GB,@: >#!' ?A 4A' # "A>' >G:>?'
N' F:@= =>,>4A P' + :' ' @?, B#2 ' !' N' @' M:>@" 2 >' P p@ F' "A> 4>'
@,,2?# "A #' F>: D@" 2 ' "2' G>' 2" =L N' @' F24"2: P' "' # :2, @G,E' 42 L
:2G@G,>' @?, #2 %#XX>:2m\2 ' ;#!D2, ' >4">F' ? "A' "A>' GE ## @ ' % !'
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@: 6 ' ' G:' K :> L' ;;:BB' K G:' F :' ' G:'
! ' 86 L' ' B' H: G>HB' >6' @J:; 6' ' G B'
A :F ' G> ' G:' ?> :' 86 ' FG ' B' ;:C ;:; 9' G:' B8H: '
;: 9 ' ; :B' 6 ' >HH:> ' ' @:' ?>6 :B :;' 6' G> ;B:>'
86;: ' >69' B8CG' G :: ;' :H :B:6 > 6
B' >' B8@B >6 A:' ;: 9 ' ; B 6C ' ?' G: ' G8B@>6; '
8 >&B' CG> >C : B CB' > :' G> ' BG:' H :B ;:B' A: ' :'
>6;' A: ' :C86; 9 ' ' B' 6 ' 78 :' C :> ' FG: G: '
G:B:' C:B' @: 6 ' ' G: ' > 6: ' ' FG: G: ' BG:'
B' >BB C > :;' 6' :>CG' ' G:?' F G' >' B B : ' ;;:BB '
G: :' B' >' K % B :BB' ' : L' FG ' ?8B ' @:' : > ;:;'
>B' G:' BH:C > ' ; BH:6B: ' ' G> ' @ :BB 6 4 >6;' G: :'
B' >' K' % B :BB' ' G:' ;B L' FG ' B' :DH :BB 9' B> ;'
' K H :B ;:' A: ' @ GB L' 6C: 6 6 ' G:B:' F '
H: B 6> :B' F:' C>66 ' > ' H :B:6 ' ;: : ? 6:' FG: G: '
G:9' > :' :> 9' ; B 6C ' ;: :B' ' FG: G: ' G:9' > :'
6 ' > G: ' >BH:C B' ' 8 > ' B8 C :6 9' ?> :;' ' @:'
#4H :B:6 :;' 6' G:' :?H :B' @9' ; B 6C ' ; B ^
8 >' F>B' F 4 BG HH:;' 6' C B:' C ?@ 6> 6' F G'
G: ' G8B@>6; ' @ G' > ' > B>' >6;' HH> > ' &: ' 6>?:'
>HH:> B' 6' G:' 6BC H 6B' C 66:7 :;' F G' @ G'
H >C:B4 >6;' BG:' B' H @>@ 9' G:' K' 6>??: :CG L'
FG ?' G:' :HG> A :B' G 6 8 :;' 6' C 6J86C 6' F G

' "2@E' >:O@ #' G>' "A>' #@=>' ?2:F'
@#' "A>' M@B' GE## @ K' 2'
N , MA" P
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!' D2, ' ' ' JI
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#A ' 2 ' "A>' =@,>' +B ' #' 2B F' ' GB"'
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N' ,>' 2 ,E' ,@4>' ?A>:>' "A>#>' "?2'
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1B,@' #' B' "A>C, #"' 2 ' "A>' F2,#' 42 L
"@ >F' ' "A>' M:>@"' ">= ,>' 2 ' >,5'
4:2F@4, ' @"' @GE,2 ' B"' "2:' "A #'
2" 4>!' "A>' @=>#' ?2B,F' 4>:"@ ,E'
A@D>' G>> ' :>M@:F>F' @#' 2"A M' =2:>'
"A@ ' " ",>#' 2 ' 1B,@

; >? ? : :CG' G:' K : 1 6 L# 6' > : ' ? :B' B :' G>;' > B ' : ?H :B' 6; :H:6; :6 ' ' G: ' G8B@>6; ' > ' $>@9 6' >6;' $ B HH>' >B' F: ' >B' > ' > >G' >6;' BBG8

Ù G:' : ?@ : ?' 6 F'C ? ? 6 9' : > ; : ;' >B' B9 ? @ P ` 6 ' 8>' B' G:' : G >9: ;' ; B ' ' @' FG CG' :P 78:6 9' >CC ?H>6 :B' G:' @' F G' 8 ' >9B' 6' G:' $>@9 6 >6' :H :B:6 > 6B' 6' :8' ' >' ; B ' F:

G>A:' B ? : ? :B' >6' : G >9: ;' B > >6;' :A:6

CC>B 6> 9' >' B > ' F JJ' B D' >9B' 6 9 ' B

C8 8B' G> ' G:' : G >9: ;' B > ' @:C>? :' > ' >6' :> 9' H: ;' G:' 86 A: B> ' : ?@ : ?' ' ; A 6 9' 4 @8 'H: G>HB' F :' C>6' 6 9' C 6C 8; :' ?' G B' G:' ' 6' ' G:' F BG H' :6: > 9 ' >6;' 6 ' >69' BH:C > ' H :P : ? 6:6C:' 'H 9' ' 686 ' A: ' G: ' ; : :B

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G:' G ;' ? : ? @: ' ' G:' B:C 6;' >;' B' G:' ;' ' G:' > ? BHG: : ' 9G B:' 6> ? :' 'G>B' @: : 6' H H B: ;' ' :6; : ' HG 6: C> 9' 6' >' :> ' A> : 9' ' F>9B < 6' G:' FG :' G:' @:B ' :6; : 6 ' B' 6 F' G 8 G ' ' @:' J 'Y' >6;' G B' B' >CC ; 6 9' G:' 6> ? '>; H : ;' 6' G:B:' A 8 ? :B ' 0 : :' E ' G:' C :C ' > C8 > 6

H 2' #@" # @4"2:E' >a ,@ @" 2 '5A@# G>> ' M D> ' 2 ' "A>' ?2:F @ 2,44A' F> " E M' A = !' @ @:> ",E!' ? "A' ' '" :> :>#> "# "A>' =@,>' ? > :' 2 ' "A>' % :' 2 ' @=@#4 B#' : ')2a' "A>' #B ! ?>' = B#'" #B ?#>' "A@'" ' @,G2'" 4@,,# A =' X $' /,B % # ' # @ ' @GG:>D @">F' 2: =' 2 ' B "! ' + ' B!' @## =K ' + :' @ F' "A@'" $! # 2'" $ % ! ' @?, #2 ' 2 ' "A>' ?A2,>' :> >:# _I ! "A>' $> ?# :2=' 42 ">= '" 2'" K ! GB'" @F= "# @'" "A>' #@=>' " =>' 4@: M' "2' G>' 42::>4'" ' "A>' @=>#2 ' "A@'" ' ! ! @ F' ' 2:' i' @:>' @,#>' M2F# 2## G,>' :>@F M#' +>>' "A>! @B"A2:'# ! D2 ' ' ' 1K

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F:' ? G ' : > ;' G:' : ?' >B' B ?H 9' G:' ;' &>? C'
6>?:' 'K' G:' > L' >6;' 8B > :' ' @9' G:' >@ C'
! '" FG CG' G>B' B ' G>' ?:>6 6
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9 ' >6;' G B' B 6 ' H B A:' CG> >C : ' C 6 >B '
:?> >@ 9' F G' G:' F:> ' >6;' BG>; F9' :> 8 :B' '
>68B' ' . G: ' 6' G:' C >BB C>' B9B : ? ' '8 '
6; : : ;' C :BH 6;B' 6' :> ' ?:>B8 :' F G' G:' C >BP
B C>' p:8B' ' *8H : ' @: 6 ' :' G ? ' G:' :>'
K' 6C:' ' G:' H F: ' ' G:' > L' G:' ;' ' G:'
FG F 6;' >6;' G:' : ?H:B ' >6;' G:' F : ; : ' ' G:'
G86; : @ ' & B' B >6;> ;' :B ' > :' K' G:' ? 6 B : '
'G:>A:6' >6;' :> G L' K' G:' ;' ' G:' > L' K' G:' FG '
?> :B' G:' : ?H:B ' ' > : L' &:' B' : > ; : ;' >B' G:'
; :B 9: ' 'C HB' G:' : 8H' ' : :B ' G:' BC> : : '
' G:' G> A:B ' >? 6: ' BC> C 9 ' >6;' :A:6' G: '
C 6B:78:6C: ' H:B :6C: ' > :' >BB 6: ;' 'G ? ' &:' B'
B> ;' ' G>A:' 6' G B2' G>6;' >' K' >? 6 ' BF ; L' F G'
FG CG' G:' : :C B' G B' F B' ' ; :B 8C 6'4 >6;' G B'
K >? 6 ' BG ; L' FG CG' H @>@ 9' :H :B:6 B' G P
6 6 ' @:C ?:B' G B' : ?@ : ?' 8H 6' G:' >@ : B'
>6;' C9 6; : B ' FG: :' ' B' 8 : ;' >B' >'
; 8@ :' ' H :' @ ^' '8 ' > > 6 ' >B' G:'
;' ' G:' > ? BHG: : ' A:B' G:' > 64'
6;' G:6C:' G:' B' K' G:' C> : 8 ' >6;' @:6: '
UC:6 ' CG : L' K' G:' A: ' ' >@86; >6C: L'
K G:' ;' ' :C86; 9 L' 6' G B' C>H>C 9' G:' B 6> 8P
> 9' CG B:6' ' H :B ; :' A: ' C>6> B ' G:' :> ' : P
`: B' #$>@9 6 >4 >6;' F<' 6;' >? 6 ' G B' :B

N $2,"# 2 ' "A>' O F' :> :>#> ">F' A # 42= B>#"#' + :' ' @DD, A#2 '
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M,@"A5,% ,4#4:' ' =@F>' 2 >' 2 ' 42 5' 'J T K
>:'@ F' #4: G>F' B 2 ' '" @' :>42:F 2

K G: ; C>6> B L >6; K G: :B >@GBG: F B Q > 6 L

G: : B 6 ?8CG :A ; :6C: G: F BG H ' 8 6 G> ;B:> ;8 6 G: :> 9 ?:B G> G: ?8B G>A: @::6 6 F6 >HH:> B ?' G: >C ' G B 6>?: ? 6 >G: : ?:6 6 G: 6>?: ' G>?>B ' 8 B 6 B? ;> 6 FG 8 :; A: G> ;>:> >@ 8 6 C "+j, ^ ' B > B C: > 6 G> G B G>?>B ' 8 B: 8H G B F BG H > BBG8 N1 :G G: G> S 6 BB9 > >BB C > 6 G ?' G: : F G G B > G< 6> >6; @8 ; 6 ' G:?' C 6J 6 9 >' :> ' :?H : # 8 G: G>6 G B F:* >A:' 6 H G> G:' F>B >6 @J:C F BG H 6 G:' ?:' G:' B ? 6> CG94 G 8 G 6 G:' ?:' BB9 >6 H :H 6;: >6C: >B F: >B 6 G> G:' > : $>@J\ 6 >6 ?H : G: : F: :' :F ;B ? :' A:6: > : ; 2 ' 8 B B ?: ?:B >BB C > : ;' F G >' ; ; :BB G> > > > FG B H @>@ 9 G:' > >?@ > >?@>B G:' :D C >HG: B ^ G:' ?:>6 6 G: 6>?: B 86C: > 6 4 ^ >6; G: :H G: B> :' #G:' ? B H> @BC8 : & : ; 6> 9 :' B K 78::6 L G:' :? 6 6:' G:' C ?? 6 F ; FG CG ?:>6B K G : L K 1 6 L ' K A: : 6 L

$? '

F :' > :' G ' 6 : > ; 6 ' G:' :' ;B FG B >6; 6:D ' ' G:' >; ?:; ' G:' % 6 G:' 86 >6; G:' ? BHG: : >B :H :B:6 > A:B ' G:' A:' H >6: B A B @ :' ' G:' 6> :; :9: ' :' ; 6

1 +>' G>,2?! 4A D ' ' R =2,2M 4B=' @M B=' "A>' 2:=' B#>F C +>>' "A>' B$% # ' ' ' # 2 . F\a @: + ' B& ' J N A>' #>42 F >,>=> " ' +@,@ G2 C >#E4A B# B#># "A>' 2:=' @5 2:' +@,@=G@# # :2G@G,E@= = @ 2G @ F 4@,,# "A>' M2FF>## N "A>' 7K! N' @ =2"A>: P @GE,2 @ ' -> B# P ' "A>' *"E5

' 6 H ' BG ;' @:' > 8 6 ' & B' 6>?:B' $> ' >6;' 6 ' > :' :BH:C A: 9' >' :? @' >6;' >' &>? C' : 6O' B 6 9 6 ' K' ;'L' ' K' ?>B : L' 6 H ' G B' 8 ' &>? C' >HH: > 6 ' B 6 :B' K' 6 ' @9' 6>?:L' ' KG:' FG B:' 6>?:' B' 64L' >6;' B ? > 9 ' G B' 8 ' :? C' >HH: > 6' B::?B' ' G>A:' @::6' #$> BG:?' K $> ' @9' 6>?:L' ' KG:' FG B:' 6>?:' B' $> L (>' : ?' FG CG' B' 6 ' 6;::;' 86;' 6' G:' 6BC H 6B' @8 ' FG CG' >HH:> B' ' G>A:' @::6' F: ' 6 F6' ' G:' :> 9' 9 >6B' >6;' ?:6 >6B ' >6;' FG CG' F>B' H P @>@ 9' G:' 6' ' G:' :' $> B:? ' @ 6:' @9' G:' 6 B' ' &> >' #. ' 6:> ' 1 :G G: G> S' 6' ?>6' ?:B ^

6' CG> >C : ' >6;' > @8 :B' G:' C >BB C>' ; ' FG ?' 6' ? B ' C B: 9' :B:?@ :B' B' G F:A: ' 6 ' > 8 6' @8 ' &: C8 :B' 6' 6; C> 6' ' G B' C 6P 6:D 6' B' H: G>HB' C 6 > 6:;' 6' G:'Ů &: ; :>6' :6:> 9 ' FG CG' ?> :B' &: C8 :B' >6' >6C:B ' ' 68B ^' %>69' C >BB C>' >; 6B' F:' ?8B ' :P ?:?@: ' ;:6 :;' &: C8 :B' F G' > 8 6>6 ;' ' B::?B' C: > 6' G>' 6' G:' >B ' > ' >69' > :' G B' ;:6 P C> 6' F>B' C ?? 6 ^' 6' 6' G:' 6BC H 6B' B' G:' ;' ' B :6 G' >6;' C 8 > :' &:' B' K' G:' ;' ' G:'@ >A: L' K' G:' CG>?H 6 L' K' G:' F> ' FG ' B8@P ;8:B' :B L' KG:' FG ' B :6 G:6B' G:' G:> ' ' G B' F: B4L' 6;' > > 6 ' K G:' ;:B 9: ' ' :6:? :B L

' +>>' 2#' A2:> ' 9 &' $!' ' I !' N @:#@=B;j' 2G' 2:" ## "A@#:2# M>#"@# ' >2# @#4: " =' @F',2 M =' ">= B# +E:' 42,B>:> P' ' I !' N' 5' M:@ >#' ' >#2 2"@= @='F>#4> F "!'>'" @4" # G' @:#@=' #"@"B@=!' ^B@=' >a' >G2:>' 4'" G>:E,,2' @4"@=' @:M> "2' 2=@D>:@"!' F> 2:"@,' >@=' BG>"!' >'" ' G2:F@ 2'2 F2',24@ P Ć >:2F @ ' ' I!'] I I!

H >:2F!' ' R Ù / EFB#!' G ') ' !' D' U '" "G> @M C > ' , ' & aD' J'' @=@#4' '+ , #! N +>>' "A>' >=2 :' 2' ' @2B,' 24A>""">' 2' ", >' ##E: @ ' >:4B,>#' ' "A>' #>D> ">> "A' D2,B=>' 2' "A>')8$ ' ' KB !' ?A>:>' "A # 2 '" # @GB F@ ",E' :2D>F

"the reducer of the disobedient," "the exterminator of rebels," "he whose sword is good." In many respects he bears a close resemblance to Nergal or Mars. Like him, he is a god of battle and of the chace, presiding over the king's expeditions, whether for war or hunting, and giving success in both alike. At the same time he has qualities which seem wholly unconnected with any that have been hitherto mentioned. He is the true "Fish-God" of Berosus,[9] and is figured as such in the sculptures. In this point of view he is called "the god of the sea," "he who dwells in the deep," and again, somewhat curiously, "the opener of aqueducts." Besides these epithets he has many of a more general character, as "the powerful chief," "the supreme," "the first of the gods," "the favourite of the gods," "the chief of the spirits," and the like. Again, he has a set of epithets, which seem to point to his stellar character, very difficult to reconcile with the notion, that, as a celestial luminary, he was Saturn. We find him called "the light of heaven

Figure of Nin, the Fish-God.

[9] Fr. 1, § 3. Τὸ μὲν ὅλον σῶμα ἔχον ἰχθύος, ὑπὸ δὲ τὴν κεφαλὴν παραπεφυκυῖαν ἄλλην κεφαλὴν ὑποκάτω τῆς τοῦ ἰχθύος κεφαλῆς, καὶ πόδας ὁμοίως ἀνθρώπου, παραπεφυκότας δὲ ἐκ τῆς οὐρᾶς τοῦ ἰχθύος.

and earth," "he who, like the sun, the light of the gods, irradiates the nations." These phrases appear to point to the Moon, or to some very brilliant star, and are scarcely reconcilable with the notion that he was the dark and distant Saturn.

Nin's emblem, the Man-Bull.

Nin's emblem in Assyria is the Man-Bull, the impersonation of strength and power. He guards the palaces of the Assyrian kings, who reckon him their tutelary god, and give his name to their capital city. We may conjecture that in Babylonia his emblem was the sacred fish, which is often seen under different forms upon the cylinders.

The monuments furnish no evidence of the early worship of Nin in Chaldæa. We may perhaps gather the fact from Berosus' account of the Fish-God as an early object of veneration in that region,[10] as well as from the Hamitic etymology of the name by which he was ordinarily known even in Assyria.[1]

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[10] The Fish-god (Ὡάννης) comes out of the Red Sea (Persian Gulf) to instruct the settlers in *Chaldæa*.

[1] That the Assyrians commonly used the Hamitic Nin, or Ninip, and not the Semitic Bar, or Barshem, is proved by the traditions concerning Ninus, and by the name of their capital city.

G: :' G:' F>B' > F>9B' 6:' ' G:'Ü? B ' ?H >6 ' N: :B ' & B' :?H :' ' 6:A:G' F>B' A: 9' >? 8B ' >6;' B'6 C:;'@9' >C 8B' 6' G B'K' 66> B4 >6;'G:' G>;' :F B:' F ' :?H :B' > ' > >G' N ? 8;S'@ G' @8 ; 6 B' 'B ?:'H : :6B 6

' G>B'@::6' > :>;9' ?:6 6:;^' G>' 6' F>B' G:' B 6' '$: ? ;' >6;' G>' $: B' F>B'@ G'G B'F :' >6;' G B' ? G: ' G:B:' : > 6BG HB' > :' F: ' :B >P @ BG:;' B 6C:' G:9' > :' :H:> :; 9' >BB: :;' 6:' >@P : 'G F:A: ' 6A: B' G:' :6:> 9' >6;' ?> :B' $: ' ? ;' G:' B 6' ' 6' 6B :>;' ' G B' > G: ' G:' C 6 >; C 6' H: G>HBYBH 6 B' ?' G:' ; 8@ :'CG>P >C : ' ' G B' ; A 6 9 YFG '>B' > 8 6' B' G:' > G: ' @8 '>B' &: C8 :B' G:' B 6' '*8H :

*/5 **

$: %: ;>CG' B'@:9 6;' > ' ; 8@ ' G:'H 6:'*8 ' H : ' FG CG' B' B ' C> :;' $: ' @9' G:' %:6;C:>6B' G:' 6>?:' %: ;>CG' B' '86C: > 6' : 9? 9' >6;' ?:>6 6 ' ' G>B' @::6' C ?H> :;' F G'O G:' : B >6' ! ' G:' ; ? 68 A:' ' ! ' K'>' ?>6 L' >6;' F G' G:' >@ C' K ' FG CG' B' G:' 6>?:' ' G:'H >6: ' %> B' $8 '>B' G: :' B' :A: 9' :>B 6' '@: :A:' G>' G:' : ?' @: 6 B' ' G:' &>? C' $>@9 6 >6' ' B' 6' A> 6' 'G>A:' :C 8 B:' ' >6' ' :? C' 6 8:B' ' B' ;: A> 6' % B' : 9' G:' F ;' B'>';:BC H A:' :H G: ' 6> 9' > >CG:;' ' G:' 6>?:' $: ' 6' G:' B>?:' F>9' >B' (5 '' @8'8 ?> : 9' 8B8 H 6 ' B' H >C:' >6;'C ? 6 ' '@:' : > ;:;'>B' G:'H H: '6>?:' ' G:' ;: 9' ' B' ; 8@ ' FG: G: ' >69' HG 6: C' :H :P B:6 > A:' ' %: ;>CG' G>B' @::6' G;' 6' G:' ? 68

@4 "' ' &' a ' I @F' D24' N' >:2F@4G P
+>>' @G2D>!' @M>' IQI Ć 7 ""2'#' % '6'% #$!' D2,'
1>#> B#!' - % ' B % % ! ' '

"[, *') *+ ' ' -

=6:6 B4 ' B '2 G:' H 686C > 6' BG 8 ; ' >HH> :6 9' '
:%[' & ! " FG:6C:' F:' ? ' ; : A:' G:' ? ;>C >'
#A ; 5 4- ' ' :?9 ^

G:' :B' >6;' > @8 :B' ' %: ;>CG' > :' ' ? :'
G>6' 8B8>' A> 8:6:BB' 6' G:' ? B' >6C :6' ? 68' '
?:6 B' FG CG' ?:6 6' G ?' G:' B: :?B' ' @:' C> : ;'
K' G:' ;' ?>6' ' G:' ; B L'<' >6;' K' G:' J8 ; :'L'4 G:'
> B ' C: > 6 9' G>B' G:' " FG CG' 6':> 9' ? :B' F: :'
G:' B:> B' ' J8B C:' 86 ; : ' G B' BH:C >' H :C 6'
G8B' G:' F 8 ;' B: : ?' ' G:' G:' ;' ' J8B C:' >6;'
J8 ; ? :6 (>6' ; :>' FG CG' ?>9' G>A:' A:6' B:' ' G:'
&:@ :F' 6>?:' ' G:' H >6: ' *#8H : ' A `' " H6D'
KJ8B > L' $: %: ;>CG' F>B' F BG HH: ;' 6' G:'
:> 9' G> ;> >6' 6 ; ? ' >B' >HH:> B' ?' G:#' : '
' >@ : B' &:' F B' H @>@ 9' ?' >' A: 9' :? :'
?:' G:' 8 : > 9' ;' ' G:' C 9' ' $>@9 64 ^ >6;'
G:6C: ' >B' G> ' C 9' :F' 6 ' ?H >6C: ' G:' F BG H'
' %: ;>CG' @:C>?:' ? :' H ? 6:6 ' G:' BB9 >6'
? 6> CGB' > F>9B' :BH:C > 9' >BB C > :' $>@9 6' F G'
G B' ; 4 >6;' 6' G:' > : ' $>@9 6 >6' :?H :' G:'
@:C ?:B' @9' > ' G:' CG : ' @J:C ' ' F BG H ' ' B' G B'
:?H :' FG CG' &: ; 8B' ; :BC @:B' B ' : >@ > : 9 #' >6;'
G B' ?> : ' FG CG ' >CC ; 6 ' ' G:' H C 9HG>' >6 : '
G:' $>@9 6 >6B' F BG HH: ;' F G' B ' ?8CG' ; :A 6 <^
:@8CG>; 6: ``> ' C> B' G ?' K' G:' 6 ' ' G:' G:>A:6B

N A # # "2,>=E\# @=>' 2:' @' H A>' @GE,2 @ ' O M# @:>' 2 F'
F #": 4" 2 ' @GE,2 @' #>>' A # F J 2 ' 4A F M' "A>' ?2:F' >:2F@4A' '
'!' - ' K !' A>' / @" ' ":@ #,@"2:' "A> :' @=>#' # >@:,E' @# (' III !'
:> F>:>' "' GE' @:F24">@ ?>5 F @') % @@ !' "A>'
U +2' "A>' A= 4 @ # ?2:#A >F #2 ' 2 '5@ ' B C@) % ' ">:L
>,' @# : 0 Y !' 2:' . ' !' N' "A>' ?@:F# ?>' A@D>' >:2F@4A5 @,@F@B!'
' >,P' @=@#4 ' @ ' A2" ' " 4#>## =2:F@4AB#!' *D ,5 >:2F@4A!'
' U K" @ F' "A>' +@G@8@ # 2 ' 34 '
@::@ ' 4@,,>F' "A> :' >,!' N >,!' "A>' % >:2F!' ' I I5I ' 2= @:>'
M:@D>'2,F'=@ P' A?2,#2A !' " ' 2F' + 4 ' T
' ' $!' D2 ' ' ' T K N' 24 ' @ ' a D '

f *5 ' p * 1 / ' "["

' 66'

>6;' G:' :> EL' :>' ; L' K' G:'#B:6 ' ' G:'
2 ;B'L' K' :' ? B' >6C :G L' K' G:' B8HH : ' ' B A:P
: 6 9 L' >9: 8H' ' :>B8 :B L' cC ' >6;' >BP
C @:B' 'G ?' > 'G B' 9'>6;' B8CC:BB:B
0 :' G>A:' 6 ' ?:>6B' ' ;: : ? 6 6 ' FG CG' >? 6 '
G:' :?@ :?B' ' G:' ;B' B' '@:' >BB 6:;' '
$: %: ;>CG4 6 ' B' G: :' >69' BC8 H 8 :;'
?' FG CG' C>6' @:' C: > 6 9' > >CG:;' '
G ?' CC ; 6 ' ' ; 8B' G:' :>'
B > 8:' ' $: %: ;>CG' > ' $>@9 6' F>B' >'
8 :' KB >6; 6 ' >6;' 8 0' 8CG' >'
?' >HH:> B' ? :' :6' G>6' >69' G: '
8H 6' G:' C9 6;: B' L G:' $>@9 6 >6B' 4
>6;' ' B' H: G>HB' > F>@ :' ' C 6J:C 8 :'
G>' ' ?>9' :H :B:6 ' G B' >A 8 :';: 9 ' U

V

f *5

$: %: ;>CG' G>B' >' F :' F G' FG ?' GT' B' C ?P
? 6 9' >BB C > :;' C> :;' p @>6 ' G:' G>;' >' :?H :'
>' $>@9 6 ' H @>@ 9' > >CG:;' ' G: ' G8B@>6;<B' >6;'
B' H: G>HB' G:' $>@9 6 >6' *86 ' N&: >S' ' ; 8B '
G:' :BB:6 >' : :?:6 ' 'G: ' 6>?:' B:: ?B' 'G:' \ "'
FG CG' B' >6' ;' &>? C' ' ' 86C: > 6' ?:>6 6 '
FG :' G:' >CC ?H>69 6 ' ' B' >' ;:BC H A:' :H G: '
FG CG' ?>9' @:' :6;: :;' @9' K : ? D L' yp @> '
F>B' H @>@ 9' G:' ;;:BB' FG B:' F BG H' G:' $>@9 P
6 >6' B: : B' C> :;' ' >?> >' >6;' FG ' B' C> :;'
8CC G @:6 G' 6' C H 8 : ^

* 1 /

: > ' G:' H >6: ' %> B' FG B:' 6>?:' B ' :?> 6B

C 2F' + 4' 'T!']'Q'8 E A ' ' H' +B442"A!' N'"> "#!P' # :2G@G,E'@'
" # FE2 . X@' 2: KX4J# 3 ' ı ' F @X+>5' = #":@ #,@" 2 ' 2 ' f :!' 2:' f :@"!' ?A 4A'
, '*'Y' & ?@# 42 2B F>F' ? "A' [!' @' ?2:F'
' G F' 'T!']J A@D M' "A@"' =>@ M

"[- *') + ' ! '))

86;: ' G:' 66' ' : ' 6' G:'>B 6 ? C>' B9B : ?'
' G:'%:6; :>6B' B' >' ;' I G B:' CG> >C : '>6;' #'
@8 :B'> :' : >@ 9'C :> ' >6;' ;: 6 : ' & B' 6>?:'
B' :A ;:6 9'C ?H 86;:;' ' G:' F ' &>? C' B'
' K'>' ?>6 L' >6;' [' K' :>' B ' G>' G:' B' K' G:'
:>' ?>6 L' ' K' G:' :>' G: L' &:' B# G:' BH:C>'
;' 'F>' '>6;' ' G86 6 ' ? :' H> C8 > 9' ' G:'
> : ' & B' :B'> :' K' G:' 6 ' ' @> : L' K' G:'
CG>?H 6' ' G:' ;B L' K' G:'B ?' 8 : L' K' G:'B 6 '
@: : : L' K' G:' 8 : > ' ;' ' $>@9 6 > L' >6;' K' G:'
;' ' G:'CG>C: L' &:' B'8B8> 9'C 8H :;'F G' 6 'FG '
:F B:' H :B ;:B' A: '@> :B'>6;' A: 'G86 6 '4 @8 '
FG :' 6' B' >' :>B 'G B' :78>' 6' G:' ?: ' BHG: :'
: >'G>B'>' ;:C ;:;'H : :? 6:6C:' 6' G:' > :
0 :'G>A:'6 ' :A ;:6C:' G>' : >'F>B'F BG HH:;'
6' G:' H ? A:' ?:B' &:' B' B' ?:6 6:;' @9'
B ?:' ' G:' :> 9' BB9 >6' 6 B ' FG ' : > ;' G ?'
>B' G: ' >6C:B ' ' B' C 6J:C 8 :;' G> ' :' $ '
H 8 'G:' :H :B:6 B' G:';: :;'G: ' ? ; ^ FG '
?>9' G>A:'Q@::6' F BG HH:;' 6' ; : :6 ' H> B' '
G> ;B:>' 86;: ' ; : :6 ' :B
G:' C 9' H:C8 > 9' ;:; C> :;' ' : >' F>B' 8 @>'
' >@>' FG CG' B' C 6B >6 9' C> :;'G B' C 9' 6' G:'
6BC H 6B' &:' F>B' F BG HH:;' > B ' > ' > @ B>'
6:> ' 6:A:G '@8 ' 6' >@>'G:' F>B' B> ;' ' K' A: L'
>6;'G B'BG 6:' G: :' F>B' 6:' ' :>'C: :@ 9' &:6C:'
K' G:' ?:6' ' 8 G L' FG:6' >6BH :;' ' >?> >'@9'
G:' BB9 >6B'6> 8 > 9':6 8 G' K' ?>;:' : >' G: '
; L' C> 9 6 'G B' F BG H' F G' G:?' 6 ' G: '6:F'
C 86 9 ^' U'
' B' H @>@ :' G>' : > 'B9?@ ' F>B' G:' %>6

^ # M,@"A5 ,>#>:' !' @G2B"' (.' @' 9 +'Q '%& * *' *''2,'&"'! +\'
II ! @ F' +@ F@ @ @,B#!' @G2B"' (.' ' ' 3'
TQ N +>>' ' 7 M# aD '

Nergal's emblem, the Man-Lion.

"[\ *') + ' '

6' (' 5'B ?: ?:B' 8B:;' 6' G:' 6BC H 6B' 6 ' G:' ?:>6 6 ' ' K' 6'L'4 >6C' G:' :? C' 6>?:' j ' G:' ;' G ?B: ' B' K' >'«(G:' ; 6> 9' : ?' ' G:' 6 ' ' @:>B B' @ G' 6'&:@ :F' >6;' 6' 9 >C' : G>HB' F:' G>A:' G: :' G:' 8:' ;: A> 6' ' G:' :: '6>?:' ' G:' ;' 'F> ' :B' FG CG G>B' 6 ' H8`` :;' C >BB C>' BCG > B' G:' 6'F 8 ;' B9?@ `:'@ G' G:' G 6 '>6;' G:'G86 6 'H H:6P B :B' ' G:' ;' 'G:'6 ' 6 9':6 > :B' 6'C ?@> B' 8H 6' CC>B 6B'@8 ' :6' CG>B:B' G B' H :9'> ;' 86B' ' ; F6' :'>'G86 : ' > 6 ' ' : >' B' G:' %>6 ' 6'G B' >BB C > 6' 6' G:'@8 ; 6 B'F G' G:'%>6 ' $8 'F 8 ;'@:' :D>C 9'H> > :'F G' G:'C 6J86C 6 ' FG CG' F:'B 'C 6B >6 9' 6;'@: F::6'G ?'>6;' 6' 6' G:' 6BC H 6B' #

: >'G>;'>'F :'C> :;' >`' 'FG ?'G F:A: ' 6 G 6 ' B' 6 F6'@:9 6;'G: ' 6>?:' ' B'86C: > 6' FG CG' >? 6 ' G:' :?@:?B' ' G:' ;B' >HH: > 6B' 'G ?

& 1' '

BG > ' ' >6>' B' G:' H >6: > 9' :68B' >6;' 6' :6: >' :> 8 :B'C :BH 6;B' F G' G:' C >BB C>' ;P ;:BB' &: ' 6>?:' BG > ' B' G>'@9' FG CG' BG:' F>B' 6 F6' 6' BB9 >'>6;' G:' B>?:' : ?'H :A> :;' F G' B G'? ; C> 6B' >? 6 ' G:' :? C' >C:B' :6:P > 9' G:' G :6 C >6' ?'F>B' B > :' G:'&:@ :F' BG : G4#' G:' H :B:6' %:6;?>6' ?' B' BG >

M A>' +@G?@ #' 2' @::@ !' ?A2' B#>F' M> >:@,,E'"A>' @GE,2 @ '@ >,L ,@" 2 #' 2'"A>' M2F#!' @ ,>F' "A>' @=>' 2' '"2'"A>' "A :F' F@E' 2'"A>' ?>>O' p "A>' N' F >#' @:" #'P' 2'"A>' 2=@ #' A?2,#2A !' " ' '" $!' kD2,' ' K

'I'" 1' ' M2FF>## 2'"A>' + 5' F2 @ #'P' ;M '2'/ . . K!' #"2' G>' F #" MB #A>F' :2=' #A"@:2"A' "A>' ,B:@,' 2:=' / '

M # '2'/ . . K!' ?A 4A' #>>=# "2' G>' >' M> >: 4' ?2:F' 2:' N' @,#>' M2FL F>##>#P

'1 '7 M#a 'Q@ F' ' #A"2:>"A

6' $>@9 6 >' G:' ; ; :BB'F>B' 6 F6' > ' >6>'FG CG YB ;?B' 'G:' G ' >6B:>' ' G:'B:C 6;'G ' '%>CC> G::B ^' >6;' G:' >6 ' ' G:'? ; : ?' 9 >6B K' 'B>P B >C 9' >CC 86 'C>6' > 'H :B:6 '@:' A:6' ' G:' : 9P ? 9' ': G: '6>?:'4 ' G:' H H B>' ' C 66:C' BG > 'F G' G:' :: ' IN/ 4H Np:6;' ! '' >6BC ' % '' 6 BG' '' > 6' %'' G 8 G' ' G>B' :> ' 6>?:B' 6' B' >A 8 ' B'6 'F G9' '?8CG' > :6 6 BG > 'B'>HG ; B >C'CG> >C : 'G 8 G' 'C>6'BC> C: 9' @:' ; 8@ : ; ' ; :B' 6 '>HH:> ' A: 9'C :> 9' 6' G:' 6P BC H 6B' G:' B' K' G:' ; ; :BB'FG ' :J C:B' ?>6P 6; L' >6;' G: ' ? B 'C ?? 6' :H G: ' B' K' ? >G L' K G:' 86> :L' ' K G:' G>HH9 L ' $8 ' G: F B:' G: ' :H G: B' > :' A> 8:' >6;' :6: > ' 6B ?8CG' G>' BG:' B' :6'BC> C: 9' ; B 6 8 BG>@ :' ?'$: B ' G:' B' C> : ;' K' G:' ? B :BB' 'G:>A:6' >6;' :> G L' K G:' :>' ; ; :BB L' K' G:' 78::6' ' > ' G:' ;B'4L' >6;' > > 6' K' G:' ; ; :BB' 'F> '>6;'@> : L' K' G:' 78::6' 'A C 9 L' K BG:' FG ' > >6 :B' @> :B L' >6;' K BG:' FG ' ; : :6;B' ?'> >C B L' G:' B' > B 'O :H :B:6 :;' 6' G:' 6BC H 6B' ' 6:' 6 '>B' G:' ; ; :BB' ' G:' CG>C: ^

G:' F BG H' ' BG > ' F>B' F ; : BH :>; ' >6;' G:

N ' @2' ' I 5IQ A>' @=>' 2 'A ' # M D> 'GE' "A>' +E: @ ',>a 42M:@ A>:' @:5 @A,B,' @# 2 >' 2 '"A>' ">> ' " ",>#' @ , >F"2' "A>' ,@ >'' -> B#' GE' "A>' :@G#' A>' ?2:F' # @,#2' 2B F' B:"A>:' >@#"!' @#' ' MA@ #"@ !' ?A>:>' =@ E' ,@4>#' @:>' 4@,,>F' : ' A j' @ ">:' N' "A>',@FE' - > B# %% A>' #@=>' 2: M ' =@E' G>'@## M >F"2' "A>' 1:>>O'N' FD5' ?2 !P' "A>' @=>' 2 ' @' 42B:">#@ ' "A> !'a ' 'QRJ K' C Ć # 1>#> B#!' 2D>:#!'@ F')q:#" ' B #> %#S@:MB=> '' @M@ #'' @ ' :@L @ ' F>: D@" 2 ' 2 ' "A>' @=>' 2 '@ +>= " 4' M2F' / '# M '+ % !' D2, ' D' ' UT!' * ' K' #' >: >4",E' #2B F' GB'' A # #BMM>#" 2 ' "A@'' "A>' ":B>' >"EL =2,2ME' 2 ' #A"2:>"A' # !' ! N' "A>'#>@'' 2 '"A>'42?!P' #>>=##4@:4>,E' < > " ",>F' "2' @44> "@ 4> 2= @:>' "A>' 2=@ ' 2" 2 ' GE' ?A 4A' "A>' G>#'' "A:2?' 2 ' "A>' F 4>' ?@#' 4@,,>F' N' - > B#!P' 2:' N' @4"B#' - >5' >:>B# P' ,@ '' ' &D ' 'QQ'' 4' G & 'QT!' 34 K Ć A # #' A>:' 4A@:@4">:' ' "A>' :>L 42:F#' 2 ' ##A :5G@B 5 @,!' "A>' #2 '@ F' #B44>##2:' 2 ' *#@D5A@FF2

shrines were numerous. She is often called "the queen of Babylon," and must certainly have had a temple in that city.[4] She had also temples at Asshur (Kileh-Sherghat), at Arbela, and at Nineveh. It may be suspected that her symbol was the naked female form, which is not uncommon upon the cylinders. She may also be represented by the rude images in baked clay so common throughout the Mesopotamian ruins, which are generally regarded as images of Mylitta.[5]

Ishtar is sometimes coupled with Nebo in such a way as to suggest the notion that she was his wife. This, however, can hardly have been her real position in the mythology, since Nebo had, as will presently appear, another wife, Varamit, whom there is no reason to believe identical with Ishtar. It is most probable that the conjunction is casual and accidental, being due to special and temporary causes.[6]

NEBO.

The last of the five planetary gods is Nebo, who

[4] Nebuchadnezzar speaks of having "made the way of *Nana*" in Babylon, by which he probably means a way or road to her temple. (See the Standard Inscription, as given in the author's *Herodotus*, vol. ii. p. 586.)

[5] Loftus, *Chaldæa and Susiana*, ch. xviii. p. 214; Layard, *Nineveh and its Remains*, vol. ii. ch. 7.

[6] The conjunction appears to belong only to the time of Nebuchadnezzar. Sir H. Rawlinson observes that, as Nebuchadnezzar never once mentions Varamit, the true wife of Nebo, in his inscriptions, it is evident she was out of favour with him, and that therefore Nana "may have been thrust temporarily into her place." (See the author's *Herodotus*, vol. i. p. 637.)

86; 8@ : ; 9' :H :B:6 B' @:' H >6: ' %: C8 9 ' & B') ?:' B' G:' B>?: ' ' 6:> 9' B '@ G' 6' $>@9 6 >6' >6;' BB9 >64< >6;' F:' ?>9' H: G>HB' >BB 6' ' >' :? C' ;: A> 6' ?' G:' ' '") . . ' K' ' H HG:B9 L' ' B' G B' BH:C > ' 86C 6' ' H :B ; :' A: ' 6 F : ; :'>6;' :> 6 6 ' &:' B'C> : ;' K' G:' ;' FG ' H BB:BB:B' 6 : :6C: L' K'G:' FG ' G:> B' ?' > > L' K'G:' FG ' :>CG:B L' ' K'G:' FG ' :>CG:B'>6Nt' 6B 8C B L' 6' G B' H 6 ' ' A : F ' G:' ' C 8 B:' >HH D ?> :B' ' & >' FG B:' B 6'G:' B' C> : ;' 6' B ?:' 6BC H 6B' >6;' ' FG ?' G:' @:> B' >' :6: >' :B: ?@ >6C: ' :' & >' G:' B' B 6@ `: ;' @9' G: 'B ?H :' F : ; :' ' > FG:>; ^' G:' H ?> 9' >6;' :BB:6 >' : : ?:6 ' ' C86: ?' F P 6 ' ' ?> ' G B' J 6 ' H :B ; :6C9' F G' G> ' ;' A: ' F 6 ' >6;' : > 8 : ' ' G:' B>?:' ?:' :@ ' G>B' :' B ' ?>69' ' G:' G> ;>:>6' ;B ' >' 68?@: ' ' :P 6: >' :B ' ?H 9 6 ' ; A 6:' H F: ' FG CG ' ' G:9' G>;' @: 6 : ;' ' G ?' 6 9 ' F 8 ;' G>A:' B:: ?: ;' ' H :' G ?' G:' B8H : ?:' ;: 9' &:' B' K' G:' ;' ' ;B ' FG ' G>B' 6 ' :78>' 6' H F: L' K' G:' B8H : ?:' CG : L' K' G:' B8B > 6: L' K' G:' B8HH : L' K' G:' :A: ' :>;9 L' K G:' 8> ; >6' A: ' G:' G:>A:6B' >6;' G:' :> G L' K' G:' ;' ' G:' C 6B : > 6B L' K' G:' G ;: ' ' G:' BC:H :' ' H F: L' K'G:' FG ' >6 B' ' 6 B' G:' BC:H :' ' 9> 9' ' G:' A: 6>6C:' ' G: ' H:5H : L' ' B' CG : 9' @9' G B' ? BB 6' ?' ?>69' B B' >6;' G B' G8?@ :' H >C:' FG:6' G:' B' ?:6 6: ;

' A>' @GE,2 @ ' 2:=' # A f' "A>' ##E: @ ' A &' A>' ?25$ 2:=# "A>' " @,' >,>=> '" mB @A2B ##@:!' @G2 2,@##@:!' >GB4A@F >bb@:!' @5' G2 FB# 2: / @GEB>"B#!' 4GBb@:@F@ !' @ F' ## G,E' ' / @G2:2#2@:4A2F Ć ' "A>' M:>@'" ">= ,>' 2 ' >G2' @'" 2:# @ "A>:>' # @ ' ">: 2:' 4A@=L G>:!' ?A 4A' #>>=# "2' A@D>' G>> ' @ 4A@ >,' 2:' 2:@"2:E!' @,;' "A>' G: 4O# 2 - / ' ' %

?A 4A' @:>' 2B F' "2' G>' #"@= >F p ' @FF " 2 ' "2' "A>' 2:F @: 5' ,>M> F' 2 ' >GB4A@F >bb@: p ? "A' "A>' MB:>' 2 ' @' ?>FM>' 2:' @::2?5A>@F ' '" # :2L G@G,E' ? "A' :> >:> 4>' "2' "A # # #E=G2,' "A@'" >G2' :>4> D>F' "A>' @=>' 2 ' -:!' ?A 4A' # @'" 2 4 > @ ' @::2?!P' @ F' "A>' @=>' 2 ' "A>' ,@ >'" >:4B:E' ' @ 4 > '" >:# @

"[+ *') * + ' ' -

: G: ' F G' G:' :> 9' :> ' ;B' G> ' 2F:' 6 F' G:' F>B' ?9 G C> 9' >' ; 9' ' 6 ' A: 9' : C ' :? 6:6C: '

ń G: :' B' 6 G 6 ' ' H A:' G:' :> 9' F BG H' ' :@ ' & B' 6>?:' ; :B' 6 ' >HH:> ' >B' >6' : :?:6 ' 6' >69' 9> ' >HH: > 6' @: 6 6 ' ' G:# G> ; e>6' B: :B' ' B' G: :' >69' : : :6C:' ' G ?' 6' G:' :C ;B' ' G:' H ?:A> ' ?:B' ' >B' G:' B' H P @>@ 9' ' $>@9 6 >6' > G: ' G>6' BB9 >6' 6 ^' >6;' >B' >6' BB9 >6' 6 ' B' 6>?:;' > : ' G ?' 6' G:' F: G' C:6 8 9' 4 ! ' F:' ?>9' >BB8?:' G> ' G:' F>B' 6 ' 86 6 F6' ' G:' H ? A:' H: H :' ' G> ; e>' G 8 G' > ' H :B:6 ' G: ' :?> 6B' G>A:' 8 6 BG:;' 8B' F G' 67' ?:6 6' 'G ?' 6' > : ' > :B' G:' CG : ' B:> ' 'G B' F BG H' F>B' $ B HH>' FG: :' G:' :> ' >6;' >? 8B' :?H :' 6 F6' > ' H :B:6 ' >B' G:' $ B ? 8;' F>B' ;:; C> : ;' ' @ B' G 6 8 ' &:' G>;' > B ' >' BG 6:' > ' > >G' N ? 8;S' FG:6C:' F: :' H C8 :;' G:' B > 8:B' :H :B:6 6 ' G ?' FG CG' > :' 6 F' 6' G:' $ BG' %8B:8?' &:' F>B' 6' BH:C > ' >A 8 ' F G' G:' 6 B' ' G:' :> ' $>@9 6 >6' :?H o' FG ' F: :' ? B 9' 6>?:;' > : ' G ?' >6;' A :F:;' G ?' >B' H :B ; 6 ' A: ' G: ' G 8B:' & B' B9?@ ' G>B' 6 ' 9: ' @::6' :C 6 B:;

G:' F :' ' :@ ' >B' > :>;9' @B: A:;' F>B' > > ' ? ' ' ? (>' ' ;' FG CG' H: G>HB' ?:>6B' K' :DP > :; L' ?' G:' ' 6' K' ' @:' :;' 8H L' ' BH:C > ' > @8 :B' > :' >BC @:;' ' G B' ;;:BB' FG

C 0 , > ' >G2' :#" @ >@:# ' #5 ' A # # "A>' =2 @:4A' ?A2#>' @=>' #E 5 @!' '" # @# @' 2:> M ' M2F!' ?A2#>' # :>@F' @#) a *% !' "A>' M:@ FL ?2:#A ' # G:2BMA'" "A "A>:' :2=' @L @"A>:' 2 M,@"A5,%,>#>:' !' ?A2' # GE,2 @' # ?2:#A ' ?@# >D>:' => " 2 >F' ' "A@" =2 @:4A%# M:> '" 42= =2 ' ' "A>' =2:>' 2:"A>: ' 42B L #4: " 2 !' ' K ":E

merely accompanies her husband in most of the places where he is mentioned by name.

Nebo (from a statue in the British Museum).

Such, then, seem to have been the chief gods worshipped by the early Chaldæans. It would be an endless as well as an unprofitable task to give

G:>;B'>6;' @ ; :B' 'G B:B'@8'F G' Go' > B' ' BG' >6;' G:'>6 ?>B'? D 6' G:' ?B' 'A> 8B'@:>B B' % : A:' G: :'F: :'6 6B 8B' BG'>6;' :H :B'>6;' B: H:6 B'>6;' ; A: B' G:'C :> 8 :B'FG CG' G>;' @ P F:;' B ?z G 6' ?' :>CG' G: <B' BG>H:B'4 '>' FG CG' G:' :6:BB:B'> :'B 'H :B: A:;' 6' G:' :?H :' ' $: 8B' ' F ?>6' 8 :;' G:?' > ' @9' 6>?:' ? >'FG CG' B' 6' G> ;::' G>> G'>6;' 6' :: ' G> >BB>'N 'Ÿ G:'B:>'<S' G:6'Ú$: 8B' >HH:> :;'>6;' BH ' G:'F ?>6' 6' F> 6'4 >6;' ' G:' 6:'G> ' 'G:' G:' ?>;:' G:'G:>A:6'>6;' ' G:' G: 'G> ' G:':> G'4 >6;' G:' @:>B B' G>'F: :' 6'G: 'G:'C>8B:;' 'H: BG' 6;'@:'BH ' G:' ;> 6:BB'>6; ; A ;:;' G:' G:>A:6' >6;' G:' :> G' >B86;: '>6;' H8' G:'F ;' 6' ;:'4 >6;' G:' >6 ?>B' G>' C 8 ;' 6 ' @:> ' G:' G' H: BG:;' $: qB' 8H 6' G B' B:: 6 ' G>' G:' :> G' F>B' ;:B > :2' 9:' ::? 6 ' F G' H ;8C A:' H F: ' C ??>6;:;' 6:' ' G:' ;B' 'C8' 'G B'G:>; #'>6;' ' D' G:'@ ;'FG CG' F:;' G'A ' :> G'>6;' ?' ?:6' G: :F '>6;'@:>B B' G>'C 8 ;'@:>' G:' G ' '?>6' F>B' ?>;:'>6;' F>B' 6 : :6 '@: 6 ' >' H> > :' ' G:';A 6:' FB; ? ^' :F B:' $: 8B' ?>;:' G:' B > B'>6;' G:' B86'>6;' ? 6'>6;' G:' A:' H >6: B L

' G>B' @::6' :6: > 9' B::6' G>' G B' C B? 69

P A>:>' #@'42 B# 2', >:2' ' 25' ,EA #"2:!' G2"A' @#' :> 2:">F' GE' *B#>L G B# G52 ' 6 ' !' (' II!' K' @ F' GE' +E 4>,,B# 6 P , D2,' 2B'' 2' "# 2:U>:' '' 244B:# ' "A2' ' 'Q K!' ?A 4A' 4@ ' #4@:4>,E' A@D>' G>L ,2 M>F' "2' A # @B"A2: "E!' 4:2#B#' 4,B# # :#'' =@F>' "2' 4B'' 2 'A # 2? ' A>@F!' @ F N' "A>' 2"A>:' M2F# P!@:>' #@ F "2' A@D>' = a>F' A # G,22F' ? "A' >@:"A' @ F' 2:=>F' = @ ' GB'' @ ">:?@:F# "A>' @442B '' 42 "@ >F' ' "A>' ">a'' # M D> ' '' #>>=# "2' =>' "A@'' "A>' :#" @442B '' # @ ' ">: a",@" 2 ' ' "A2' ,>M> F ' !' A@D>' ,@4>F' "A # A:@#>' @', "",>' 2B'' 2' "# 2:U>:' '' 244B:# ' "A2' @###@M>!' ?A 4A' @ >@:# "2' =>' ">:L 2,@">F!' @ F' ?A 4A' # >:A@ # :@"A>:' @ ' >a ,@ @" 2 ' ?A 4A' >:2#B# M@D>' 2 ' "A>' ,>M> F!' "A@ ' @:'' 2 ' "A>' ,>L M> F' "#>, ' 2?>D>:!' >:2#B# A@# 2' F2BG'' A>:>' >a ,@ >F' "A>' ,>M> F' : MA",E

@:> B' >' :?> >@ :' :B:?@ >6C:' ' G:' G B 9' ' :> 6' C 6 > 6:;' 6' G:' H:6 6 ' CG>H : B' ' 8:' @ ' ' :6:B B' ?:' G>A:' 6:' B ' > ' >B' ' > 8:' G>' G:' % B> C' >CC 86 ' F>B' ;: A:;' ?' # G: B' FG ' :J:C ' G B' 6 6 ' B8 :B ') H' >' C: > 6' K' ;' G> ;::' >; 6' L' F>B' K' G:' @>B B' ' G:?' @ G L' ' F:' ; H' 8 ' G:' F ;' K G> ;::L' ?' G B' B > :?:6 ' ' ?>9' @:' : > ;:;' >B' > 9' :DH :BBP 6 ' G:' 8 G' G:' $>@9 6 >6' : :6;' :?@ ; :B' >' H ?:A>' >; 6 'C ?? 6' ' > ' ?>6 6;' ' FG CG' >6' 6BH :;X>8 G ' G>B' A:6' 8B' G:' 8:' 86;P F ' 6' G:' B ' >6;' B:C 6;' CG>H : B' ' :6:B B' 0 G>' B' :BH:C > 9' :?> >@ :' B' G:' ;: 9 ' C ?P H> > A: 9' BH:> 6 ' F G' FG CG' G:' $>@9 6 >6' : :6;' :H B' G:' >C B ' 0 G :' G:' FG :' 6:' >6;' BH ' ' G:' F ' >CC 86 B ^' >6;' :A:6' G:' H 6 ' ' A :F' ?' FG CG' G:9' > :' > :6 ' ; : ' G:' :6: >' 8 6:' ' G:' 6> > A:' 6' :>CG' B' 6:> 9' G:' B>?:' 6' @ G' F:' G>A:# G:' :> G' > ' B ' K F G 8 @ ?' >6;' A ; L' >6;' K' ;> 6:BB' 8H 6' G:' >C:' ' G:' ;::H L' 6' @ G' G:' B ' B :H' > :6' F> ;B' C :> 6' B' G:' B:H> > 6' ' G:' ? D:;' ?>BB' >6;' G:' ?> 6' ' G:' G:>A:6B' >6;' G:' :> G' >B' G:' C 6B:78:6C:' ' B8CG' B:H> > 6' 6' @ G' F:' G>A:' G ' ?:6 6:;' @: :' G:' C :> 6' ' G:' B86' >6;' ? 6' 4 6' @ G' F:' G>A:

' +2' >GBA:' #@E# ;- % ' ' % ' 9 '!' D2,' ' ' IJ!' * K!' GB'' ? "A2B"C' =>B" 2 M' "2' ?A@'' ?:">:# A>' @,,BF>#
' B #> !' '' 2 M' + % ' ' J ' 9 '!' D2,' D' H' JQ!' *
H' A>' A@,F>>' @::@" D>' # >a":@L D@M@ '" @ F' M:2">#^B>' "A>' 2#@ 4@,' # = :@4B,2B#!' @# @' ":B>' @442B '" 2 ' 4:>@" 2 ' =B#'' G>'' GB'' '" # ? "A2B"
B >4>##@:E' =@:D>,#!' @ F' "#' "2 >' # #BG, =>' @ F' #2,>=
% 1 4 >#' #"A4 2 "2 D >? #"A>' F D >k 7?'B , ' ' ' % J ' "A>' A>@D> ' @ F' "A>' >@:"A!' @ F5 "A>' P"# ' ' ' =2D>F' B 2 ' "A>' @4>' 2 ' "A>' ? @">:# P' ' "A>' A@,F>>' ,>M> F' "A>' 2 '" 2 'D >?' # "A>' AEL # 4@,' @ F' =B F@ >!' 12F' G> M' 2 FE' G:2BMA'' ' @ ">:' @' ?A ,>' @# "@O M' @' 4>:"@ ' @:'' ' 4:>@" 2

G:' :D B :6C:' >6 ?> B' @: :' ?>6' 4 > ;' 6' @ G' F:' >A :' >' ; A 6:' : : ? :6 # 6 8B: ;' 6 ' ?>6' > ' @ B' @ G' >6;' @ B' ?> 6' K' ?' G:' ;8B ' ' G:' 86; L' G:' 6 9' H 6 B' 6' FG CG' G:' 6> > A:B' C>6' @:' B> ;' ' @:' > ' A> >6C:' > :' H 6 B' ' ;: ' G:' $>@9P 6 >6B' >HH> :6 9' ?>;:' G:' ?> 6' ' ?>6' >6;' ' G:' >6 ?> B' FG CG' > ' H :B:6 ' 6G>@ ' G:' :> G' B ?8 >6: 8B' >6;' H >C:;' G:' C :> 6' ' G:' B86 ' ? 6 ' >6;' H >6: B' > : ' 6B :>;' ' @: :2 G> ' ' ? :6' >6;' >6 ?> B' 6' G: ' :BH:C B' G:' $>@9 6 >6' 6> > A:' : G: ' >; ;B' ' G:' % B> C' >CC 86 ' >B' 6' B' ;:BC H 6' ' G:' ? 6B : B' >6;' G: ' ;:B 8C 6' ' C G:B' 6' ?9 G C' >6 8> :' G> ' C 8 ;' 6:A: ' G>A:' @: :6' 86;: B ;' : > 9 ' G:' 8 G' FG CG' 6' C HP 8 :' B' H8 ' G' F G' B:A: :' B 6H C 9 ' G:' C :>AP 6 ' ' G:' F ?>6' G> > G' 6' F> 6 ' >6;' G:' @:P G:>; 6 ' ' $: 8B ' > :' : ? @: BG ? :6 B' ' G B' > : ' CG> >C : 4' G:9' > :' H > 6 9' >6;' :A ; :6 9' ?9 G ' > 4 6 ' C>6' F :' B8HH B:' G: ?' ' G>A:' @: :6' > ' >69' ?:' : > ; : ;' >B' >C B ' G:' :D B :6C:' ' G:' ? 6B : B ' 6' G:' G: ' G>6; ' ?>9' F : ' G>A:' @: :6' >6' >C 8>' @: : ' ' ?:6' > :' H 6:' ' @: :A:' 6' B8CG' ?> A: B4' >6;' ' B' 78 :' H BB @ :' >B' :@8G ' B8HP H B:B ^' G>' B ?:' ; BC A: :B' ' G:' : ?> 6B' ' ?>?P ? GB' >6;' G: ' ? 6B 8B' ?B' : ?@: ; ; :;' 6' G:' C 8B ' ' G:' :> G' ?>9' G>A:' A:6 ';: 6 :6:BB' >6;' H ? 6:6C9' ' G:' G> ; ?>6' 6 6B' 6' G B' B8@J:C

$:B ; :B' G: ' C :C ' 6 6B' 6' G:' B8@J:C ' ' C :P > 6 ' G:' H 6 62 :' G> ; :>6B' B: : ?' > B ' ' G>A:' @: :6' >F> :' ' G:' :6: > ' ; :B 8C 6' ' ?>6 6;

"+\ *') + ' ! ' -

6' >CC 86 ' # G: ' F C : ;6:BB ^' @9' >' ;4 >6;' '
G:' :@: 8B' > : ?H ' FG CG' F>B' ?>; :' B 6' > : ' G3 '
;' ' C 6C:6 > :' G: ?B: A:B' 6' 6:' H >C: ' 6B :>;'
' @:9 6 ' G:' C ? ?>6;' 'K' :H :6 BG' G:' :> GL#^('
>6' > : ?H ' FG CG' F>B' GF> : ;' @9' ? :>6B' ' G:'
C 6 8B 6' ' G: ' BH: :CG ' G:' G> ;>:>6' : :6 ;B'
:?@ ;9 6 ' G:B:' H ? A:' >; 6B' F: :' >B' P
FB') (
K' ;' >HH:> : ;' ' / B8 G 8B' N >GS' 6' >' ; :>? '
>6;' F> 6: ;' G ?' G> s 6s :s : :6 G' ;>9' ' G:'
? 6 G' >:B 8B' ?>6 6;' F 8 ;' @:' ; :B 9: ;' @9' >'
; : 8 : ' &:' @>; :' G ?' @8 9' 6' HH> >' G:' 9' '
G:' 86' G:' :D >6 'F 6 B' B '>6;' >B 4 >6;' @8 ;'
>' BG H' >6;' :6 : ' G: : 6' F G' G B' >? 9' >6;' G B'
C B:' :6 ;B4 >6;' 6 BG' ' F G' ? :>' >6;' ; 6 4
>6;' H >C:' 6' @ > ;' F 6 : ;' F ' >6;' 8 : ;'
@:>B B' ' G:' :> G4 >6;' FG:6' > ' F>B' :>; 9' B: 'B> '
/ B8 G 8B' >B : ;' Y 0 G G: 'G:' F>B' 'B> '3< >6;' F>B'
; ' Y ' G:' ;B' F G' >' H >9: ' G>' ' ? G '\Q :'
F: ' F G' ?>6 6; < G:6' / B8 G 8B' F>B' 6 ' ; BP
@: ; :6 ' ' G:' A B 6 '@8 '@8 ' >' BG H' A:' 8 6 B'
N. "- j' : : S' 6' :6 G '>6;' F ' 8 6 B' N"- j ,' : : S' 6'
@ :>; G4 >6;' C :C : ;' > ' G> 'G>;' @: :6' C ? ?>6; : ;'
G ? ' >6;' H8 ' G B' F :' >6;' CG ; :6' >6;' C B:' :6 ;B'
6' @ > ; ' G:' ;' C>? :4 >6;' >B' B 6' >B' 'C:>B: ; '
/ B8 G 8B' : ' B:' B ? :' @ ;B' FG CG' 6; 6 '6: G: '
;' 6 ' >' H >C:' FG: :' G:9' C 8 ;' :B ' C>? :' @>C ' '
G:' > ' : ' B ? :' ;>9B' G:' > > 6' B:6 ' 8 ' G:'
@ ;B # FG 7J' > > 6' : 8 6: ;' ' G:' > '@8 ' F G' : :

H A # # 2" >a :>##,E # "@">F ' 1> ' a ' I
"A>' ,>M> F ' GB'" "A>' F D >' ? @: M' C +2' ' +E 4>,,B# / $ # (
"2' . #B"A:B#!' @ F' "A>' #":>##,@ F' GE' 'QUK' ' GB'" ' "A>' :=> @ ' *B#>L
. #B"A:B# ' A # ,@#" ?2:F# 2 ' "A>' G B# ?>' :>@F' I 'G :F#P' ;6 (
?2:#A ' 2 ' 12F! #>>=' "2' = ,E' #B4A' 6 (' !' ' IQK
@' G>, >

K' G:' :> G' F>B' B ' ' 6:' >6 8> :' FG:6' G:Z' H ? A:' ?:6' FG ' F: :' H 8;' ' G: ' B :6 ' >6;' B > 8 :' >6;' ; :BH B:;' G:' ;B' >B' G: ' 6 : B' : :C :;' >' F: ' ' A>B ' G: G ' 6' ;: ' G>' G:9' ? G ' ? 86' ' G:>A:6' 6;' G:' F:J)' F>B' 6 F' 6:> ' ' G:>A:6' FG:6' G:' ;B' N ' ;S' C>8B:;' G:' F 6;B' ' @ F' >6;' A: 8 6:;' G:' B 8C 8 :' 8H 6' G:' ?:6' >6;' ?>;:' G:?' BH:> ' F G' ; A: B' 6 8:B4' FG: : :' G:' C 9' F>B' C> :;' $>@9 6 L' ^

&: :' > > 6' F:' G>A:' >' G> H 69' F G' C H 8 :' ' G:' ? B ' :?> >@ :' 6; (>' G> ? 69' 6 ' C 6 6:;' ' G:' ?> 6' >C B ' G8 ' :>CG 6 ' :A:6' ' G:' ? 68 : ' H 6 B ' >6;' 6:' FG CG' B' > : G: ' ? B ' C8 8B' >6;' 6 : :B 6 ' G:' $>@9 6 >6B' G>A:' 6 ' 6 9 ' 6' C ? ? 6' F G' G:' :> ' ?>J 9' ' 6> 6B ' G>6;:;' ; F6' ?' > :' ' > :' G:' :6: >' >; 6' ' G:' ;' @8 ' G:9' > :' >C78> 6 :;' F G' ? B ' ' G:' H> P C8 > B' ' G:' CC8 :6C:' G:9' 6 F' ' G:' ; A 6:' F> 6 6 ' ' >' B 6 :' ?>6 ^' G:' ; :C 6' ' C 6 8C' >' G8 :' BG H' ' > < G:' C ? ?>6;' ' > :' 6 ' ' >' CG B:6' :F' ' ?>6 6;' 6 9 ^' >6;' ' ;:A :' G:' CG :' BH>C:' ' F 6 :;' F ' >6;' 8 :;' @:>B B' ' G:' :> G ^' G:9' > :' >F> :' ' G:' :6 > A:' B:6; 6 ' 8 ' ' @ ;B' ?' 2^' >6;' ' G: ' : 8 6 6 ' F C: Z @8 ' FG:6' B:6 ' 8 ' >' G ;' ?:' : 8 6 6 ' 6 ' ? : ^' G:9' 6 F' ' G:' : :BB' ?' G:' > ' @9' :? A>' ' B ?:' ' B' C A: 6 ^' >6;' ' G:' > > ' @8

F ' B:H> :' A: B 6B' ' G B' :P @ F' I'
:6;' G>A:' C ?:' ; F6' ' 8B' G:9' Ó :6' A ' V < @ ' "\ "5
C ?:' :BJ : A: 9' ?' @9;:68B' I G ' D>:#>' I ^ @ ' A: B:' -,
>6;' 9G B ' O :' G>A:' G:' F ;B' ,G ' D ' R Z @ ' , ""
' G:' >8 G B' 6' 8B:@ ' + # &' &' ' ,G ' 6>:# ' I
D ' "\ "j ' >6;' 96C: Z 6 $ ' # &' Ć ,G ' D> 5#>' ".') K & >@' $
A ' ' H ' +"' ' O :' G>A:' > B ' >' >6BP ' % ' ' ' ' ' >6;' : ; '
> 6' ' : ' F ;B' 6' :' ?: ' >6;' @:G ;' G:' >C:' ' G:' :> G'
6 >6' 8B:@ 8B' /,/7 &' 6 &' ' \ F>B' ; 9 L

>6;' G:' B>C C:' : :;' ? ? : ; > : 9' > : F> ;B 2#
; :9' 6 FY G>' G:' > ' :B :;' 6' ?:6 >4^' G> 2'
G B:' FG ':BC>H:;' @9' ? :>6B' ' ' ' G: ' ; :BC:6;P
>6 B' J 8 6:9:;' F> ;B' $>@9 64^ G>' G: :' >'
F: ' F>' @: 86' @8' 6 ' C ?H : :;' G:' @8 ; 6 '
@: 6 ' B HH:;' @9' ; A 6:' 6 : H B 6' >6;' >' ? >C8P
8B2C 6 8B 6' ' 6 8:B< B'@: :' G:9'> :' 6 '
C 6 :6 'F G' G:' H > 6' 8 G' @8' ?8B' > ? H 9' >6;'
:?@: BG' ' G:' B `:' ' G:' > ' B' :D> : > : ;' '
>6' >@B8 ; 9 ^' >6;' B' H H 6B' > :' ? B :H :B:6 :;'
6' B8CG' >' F>9' >B' ' 8 > :' > ' G:' H 6C H :B' '
6>A>' > CG :C 8 : ^' G:' >6B > 6' ' / B8 G 8B'
G B' F :' G B' ;>8 G : '>6;' G B' H (>' :? 6 BC:6C:'
H BB @ 9' ' G:' >6B > 6' ' 6 CG (B' 86 9' >B'
F: '>B' > B: 9' 6 ;8C:;' J8B' > : ' G:9' G>A:' @::6'
? >C8 8B 9' B>A:;' ?' ;:B 8C 6' G:' B 9' '
G:' F: ' B' A:6' F G' :BB' ;:H> 8 :' ?' G:'
>C 8>' 8 G' G:' @8 ; 6 ' B' G F:A: ' >@B8 ; 9'
:H :B:6 :;'>B'>6'>C 8>' > :?H ' ' BC>:' G:>A:6'4
>6;'>' B ?' 'F 6;' B' B ?:FG>'866:C:BB> 9' 6

#' :8' A ' -,)' K 6;' >G'
% ' ' '86 ' G:' ;'>6;'
' ':A: 9' C :>6' @:>B ' >6;' '
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<' @' A: B:' +)' K' 6;' G:' > '
:B :;' ' ' ' 8H 6' G:' ? 86 > 6B' '
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' ?:6 >' 6' G:' BB9 >6' 6BC HP
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G:'> ' B' ?>;:' ? :' G>6' P'
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? B' ' :: ' ' :BB' G>6'>6' : G G'
'>' ? :
<' CC ; 6 ' ' B ?:' F C >' G:'
H 6C H :B' '6>A>' > CG :C 8 :' F: :'
6 'C 6C: >:;' 6' G:' @8 ; 6 ' ' G:'
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% '6' # !' A ' 'H' -"-S' $8'
F 8 ;'K'>' > 6 'G 8B: L' 6 'BG>H:;'
BG HF B:' G>A:' @::6' B> :' >? ;' G:'
F 6;B' >6;' C8 :6 B' 'B' : @:' >'
C B B'3 G:' @> ;> >6B' ;:BH :' G:'
>@B8 ;'H H 6B' G>' G:9' >BB 6'
' : ?' G:'> 'K'>' BG H L' >6;' A:'
'K'>' H L' #
K' G:' :DH :BB 6' 6' :6' D ' \'
K'>' F: ' FG B:' H' ?>9' :>CG' 86 '
G:>A:6 L' B' >' ? : :' C ? ? 6' ?' '
:6 >' G9H: @ :' >HH :;' '>69'
:>'G: G ' N :' :8 ' '-+' FG: :'
G:' Bw :B' > :' B> ;' 'G>A:' @ 8 G'
@>C ' F ;' G>' G:' C :B' ' G:' N2>'
6>>8 :B' F: :' :> '>6;' K' F> :;' 8H'
' G:>A:6 LS' $8' 6' G:' G> ;:::'
A: B 6' ' :B 9' F:'> :' :' G>'
G:' ?:6' @8 ' G:' F: ' K' 6' ;:'
G>' G:9' ? G' ? 86' 'G:>A:6' L'
* '$ 'E ' 5 ' ;E G%

"++ *') *+ ' * ' -

;8C:;' ' ;:B @9' G:' F: 'FG C ' ?' G:' C H 8 :' 6> > A:' B::?B' ' G>A:' @::6' : ' B >6; 6 ' ' B' > B ' :BH:C > 9' ' @:' 6 C:;' G>' 6' G:' G> ;B:>6' : :6;B' G:' FG :' 6 : :B ' B' ?>;:' 6> F' >6;' C> ' G:' ;' >HH:> B' >B' >' C C8?B >6C:' 6' G:'G B 9' ' $>@9 6 >4 >6;' G:' H :B 9' >; 6 B B ' FG ' G>A:' H8 ' G:' : :6;' 6 ' BG>H:' > :' CG : 9' >6D 8B' ' ?> :' G:' :A:6 ' :; 86;' ' G:' 9' ' G: ' B>C :;' @ B ' FG CG' G:9' @ >B ' ' G>A:' @::6' G:' BH:C >' @J:C B' ' ; A 6:'C> :' >6;' :H :B:6 ' >B' >' : >C9' ?' G:' >6 :; 8A >6' > :B ' G:' :6: >' 6 : :B B' ' ?>6 6;' > :' 6 G 6 ' ' G:' G> ;B:>6' H :B B ' FG ' B::' 6' G:' B 9' ' G:' F: 'B ?H 9' >' C>' : 9? P 9 ' >6;' 6' G:' : 8 :' >6' :A:6 ' FG CG' ?>;:' G:' $>@9 6 >6B' G:' B :#H BB:BB B' 'H ? :A>' F B; ? Y

$> 6'$86B:6' @B: A:B' F G' :>P 8B ' F G 8 ' ;:>B ' ; :B ' ; BH >9' B 6 (K' G:' :6: >'C 6 >B '@: F::6' 6' :A: 9' 6 'FG CG' ' ; :B' 6 'G ;' G:' $ @ C>' >6;' G:' G> ;::' A: B 6' 6' C ? ? 6' F G' G:' &:@ :JJ ' B' A: 9' :> ' 0 G>' >' H8 : 9' B!S:C >' ; '# 7 '+ % !' A ' A ' H' . [\' . C>' CG> >C : ' : :6;> 9' >6;' >@8P

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N 1> ‘ . ‘ T8‘ N‘ >‘ ?@#‘ @‘ = MA"E‘ AB ">:‘ G> 2:>‘ "A>‘ / 2 : F‘ ?A>:> 2:>‘ ‘ ‘ !‘ 7D> ‘ @# =: 2F!‘ "A>‘ = MA"E‘ AB ">:‘ G> 2:>‘ "A>‘ / 2:F P %‘ A>‘ 1 :>>O‘ 2: =#!‘ X+ ?+‘ @ F

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C8 8B' H> 4 ^ >6;' G: :' B' :' ; 8@' @8' G>' ' B' 6' 6 8 ' ' G B '>H G: B B' G>' G:' C 6B : > 6' 6' @:> B' 6' >@ >6' >B 6 ?9' G:' :' ' O ' C '" ' K G:' >6 L# A:6' >' G:' H :B:6 ;>9' G B' 6>? : ' A:B' 6' G:' ? 8 G' ' G:' H: H :' 6P G>@ 6 ' G> ;>:>' >6;' G:' >;J>C:6 ' : 6B' FG B:' ?:? 9' ' >6C :6 ' G: :B' B' > ? B ' C 6 6:;' ' G ::' (? ;' ? 6' >6;' :D>6;: ' 0 G: :A: ' >' ? 86;' ' >BG:B' B' ' @:' B::6' 6' $>@9 6 >' ' G:' >;J 6 6 ' C 86 :B' G:' C>' >; 6B' > >CG' ' ' G:' 6>?:' ' (! . ' ' (! Y' ' >6;# G:' ? B ' B 6 ' 8 6B' 6 F' :D B 6 ' 6' G:' %:B H >? >6' A> :9 ' FG: G: ' 6' B' 8HH: ' ' B' F: ' H 6 ' > :' ?>;:' 6' G B' F>9' ? 68?:6 B' 'G B' 9 # ' G:' CG 6 C>' BCG:?:' >@ A:' B: ' G^' @:' : > ;:;' >B' B8 C :6 9' :B >@ BG:;' G:' ;96>B 9' ' ? ;' ?8B ' @:' C 6B ;: :;' ' G>A:' CC8H :;' G:' G 6:' ' >' H: ;' B ?:FG>' :DC::; 6 ' F ' C:6 8P :B' >6;' >' G> (?' (. ' --.\' ' (. ' "X[5' ' C 6B B :;' F:' > :' ;' ' : :A:6' ? 6> CGB' G:' 6>?:B' '> ' G:B:' B A: : 6B' > :' 86 :C ;:;' @9' G:' C >BB C>' F : B' 86 :BB' F:' ?>9' ?> :' >6' :DC:H 6' 6' >A 8 ' ' >' C: > 6' CG>?8B' FG ' B' ?:6 6:;

C @4B'" F>4,@:>#" "A@'" =:2F' @"L ">= ">F' "2' =2B '" "2' A>@D> ' 2 ' "A>' ? M# 2 '@ ' >@M,>!' @ F' =@O>#' ,>:' @, >AK' "A>' #4> >' 2 ' "A #' 244B:L :> 4>' /- &' # & ' D24' * ' WD> ' ' 2=>:!' +>>' FE##' a ' QR 5QRQ K &(' '" # #B 2#>F' "A@'" ?>' A@D>' A>:>!' @ ' @,,B# 2 ' "2' "A>' GB ,F M' 2 ' "A>' "2?>:' 2 ' @G>, ' A>' 7F:@ ' 42 L "@ #' @' #"2:E' 2 ' j =:2F'# 4@#" M' G:@A@=' "2' @' >:E' B @4> H' , >' :@G 4' C ' :> :>#> "#' "A>' >G:>?' N ! ?A 4, ' #' "A>' > L "A>'" @ , >F' "2' =:2F' ' 1> ' a ' T' , >' F> " 4@" 2 ' 2 ' =:2F' ? "A' : 2 ' # 2">F' GE' 1:>>O' ?: ">:# +>>' $2A ' 2 ' " 24A!'): ' ' '" + % & 6 & D2, ' ' ' 1U " $2A ' 2 ' @5' ,@,@!' ' I R"' >F:> B#!' D2, ' ' ' R" 34 K' : 2 ' #' @' N' = MA"E' AB ">:!P' C C &' ' %' " %& D2, ' aD ' ' C RA>'M:>@'" ">= ,>' 2 ' 2:# @' #' 6 & D2, ' ' 1U " $2A ' 2 ' @5' O 2? ' @#' "A>' - A $ " @ F' "A>' + = ,>' @=>' A $ ' # M D> ' "2' :2G@G,E' "A>' =@#'" #": O M' A>@ ' 2 ' :B #' ' "A>' @ 4 > '" ##E: @ C +>>' @M>' IT

@9' A ;' 6' @ B' %: >? HG B:B' >B' G:' B:A:6 G' A' B8CC:BB 6' ?' $: 8B #' G B' C >BB C>' 6 C:' F 8 ;' G>A:' B:: ?: ;' 86 ?H >6 ' G>;' ' 6 ' >CC ;: ;' A: 9' C8 8B 9' F G' 6 ?> 6' @ > 6: ;' ?' G:' 6BC HP 6B' G:' :DC>A> 6B' C 6;8C : ;' @9' % ' 6B' >6;' % ' >9 ' 6' G:' ? 86;B' '>6C :6 ' G> ; e>' G>A:' @ 8 G' ' G ' >' 6>?:' A: 9' C B: 9' :B: ?P @ 6 ' G>' ' CG>?8B' FG CG' >HH:> B' ' G>A:' @: 6 :;' ' 6:' ' G:' :> :B ' 6 B' ' G:' C 86 9' G:' ! 'H > ?B' '> ' G:' ? B '>6C :6 '@8 ;P 6 B' G 8 G 8 ' G:' :6 :' : 6' > :' G:' F ' '>' C: > 6' 8 G' ' G>?' FG 'C> B' G ?B: 'K' 1 6 ' ' 'N '&8 S' >6;' 1 6 CC>; L' >6;' B' G 8 G ' ' G:' G:' B ' ? 6> CG' ' FG ?' >69' :?> 6B' G A:' @: :6' @ > 6: ;' ' 6 9' > :' G B' @ C B' 86;' 6' >' F: 'H B 6' G>6' >69' G: B '> ' G:'A: 9' 86;> 6B' '@8 ; 6 B' @8 ' G:9' > :' '>' 8; :' >6;' C > B:' ?> :' >6;' G:' 6BC H 6B' 8H 6' G:?' C 6 >B ' ? B ' :?> P >@ 9' 6' G:' B ?H C 9' ' G:' B 9 :' ' F 6 '8B:;' >6;' 6' G: ' :6: >' > CG> C' 9H:' F G' G:' :>@ > :' >6;' :6'C ?H C> : ;' B9?@ B' ' G:' > : ' ? 6> CGB ^' G:' B 9 :' ' 8 G<B' @8 ; 6 B' B' > B ' H ? A:' >6;' B ?H :' 6' G:' :D :?:'4 G B' @ C B' > :' ' ?>69' B `:B' >6;' ' :;' : G: '4# G:' @: 6 B' ' >' ?:' FG:6' :A:6' G:' @> 6 ' '@ C B' B:: ?B' ' G>A:' @: :6' C ?P H> > A: 9' > :' ' B ?: ?:B' G:' :?H 9B' 6 9' G:' B86 ; :;' ?> : >'4<' >6;' G:' B' > : G: ' 86>CP 78> 6 :;' F G' G:' 8B:' ' ?:' ? > ' ' FG CG' G B

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@:' :' ; 8@ ' G> ' G:' B >6;B' > ' G:' G:>;' ' G:' H :P
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C>66 ' B: 8B 9' @:' C ?H> :;' F G' G:Z' 9H >6'
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9:> B' ' >' A>B ' >? 86 ' 'G8?>6' >@ 8 ' 6' >' A: 9'
86H ;8C A:' B ' ' 6;8B 9' G:' $ F> 9:G'
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::' G G <^ B' C8@ C' C 6 :6 B' >B' 6> 9' @8 '
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6' B' C 6B 8C 6' 6B 8C 6B' ' >' B ? > ' CG>P
>C : ' >6;' 6 'A: 9' ; : :6 ' 6' G: ' ; ?:6B 6B' > :'
H A:;' @9' G:' @ C B' C ?H B 6 ' G:?' ' G>A:' @::6'
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>6;' > >6CG>' ' > B>' FG CG' B' H: G>HB' >B> <
' B' :A ;:6 ' ?' G:' B `:' >6;' 68?@: ' ' G:B:'
F B' G> ' G: ' : :C 'G>;' G:' C ??>6;' ' >' A>B '
>? 86 ' '6> :;'G8?>6' B :6 G '>6;' ; ;'6 'BC 8H :'
' :?H 9' G> ' B :6 G' 6' C 6B 8C 6B' ?' FG CG'
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"A>' F 4> F>F' #4A>=>' 2 ' >:2#B#
#B :@!' ' IT K!' GE' @## M M' "2' "A>'
a' O M#' :>4>F M' :BOA' "A> :' FB>'
:2 2:" 2 ' 2 ' "A>' Q ' E>@:#' ?A 4A

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H @>@ 9' ;:B 6:;' CG : 9' 7' :D :6;' IG B F6' >?7' >6;' H: H: 8> :' G B' 9' 0 :' ?>9' > G: ' ?' G B' G>' G:' F>B' : G: ' >6' HH :BB ' 'G B' H: H :' :' B ?:' ' G:' 9 >? ;' 1 6 B' 6' 9H #' ' : B:' >' C 678: ' FG ' G8B' :?H 9:;' G:' 68?: 8B' C>HP A:B' C> :;' ' 6' G B' :DH:; 6B' : G>HB' G:' > : ' B' G:' ? :' H @>@ :' B8HH B 64 ' G:' @8 ;: B' ' G:' :>' >@ CB' 6' $>@9 6 >' >6;' G> ' ;B:>' ; ' 6 ' B:: ?' ' G>A:' : '@:G 6;' G: ?' >69' CG>P >C : ' ' HH :BB A:6:BB' B8CG' >B' > >CG:B' C ? ? 6 9' ' G B:' ? 6> CGB' FG ' G>A:' 86;' ; F6' G: ' F6' H: H :' @9' B: A :' >@ 8

G:' :>' @8 ; 6 B' ' 8 G' >HH:>' ' G>A:' @:: 6' > ' ;:B 6:;' ' :?H :B' G:9' > :' C> : 8 9' H >C:;' F G' G: ' >6 :B' >C 6 ' G:' C> ; 6>' H 6 B # >6;' > :' ;:; C> :;' ' G:' 86' G:' % 6' ' $: 8B' N$: ' ? ;S' ' ' $: B' G:' :?H :' >' %8 G: F>B' @8 ' 6' G 6 8' ' G:' % 6 ;' ' 'L ' FG ' F>B' G:' 8 : > 9' ;: 9' s G:' C 9' G:' _ ◇ >' :?H :' F>B' ;:; C> :;' ' $: B' ' > 6:G' ' H8 ' * 8 G' : :C :;' F ' :?H :B' 6:' ' $: B' >6;' 6:' ' $: 8B' ' > B>' ' >B> ' G:' @J:C ' 'G B' F P BG H' F>B' G:' 86 ;' >6' 'y >y6B' & :' F 8 ;' G8B' B:: ?' ' G>A:' @:: 6' 6 ' BH:C > ' ;:A :' ' >' B 6 :' ;' @8' ' G>A:' ; A ;:;' 8' G B' >A 8 B' A: 9' > 9' >? 6 ' G:' CG : 'H: B 6> :B' ' G:' >6 G: 6

'G>B' @:: 6' @B: A:;' G>' @ G G:' 6BC H 6B' ' G B' 6 ' >6;' G B' > CG :C 8 :' > :' ' >' 8;:' >6;' H ? A:' 9H:' ' 6' 6: G: ' C>B:' ; ' F :' B:: ?' ' @:' @ 8 G' ' G:' :> :B' ;>F6' 'C _ B> 6' ' ' > ' G:' F 6 ' ' 8 G' G>B' <H>BB:;' 8' ' G:' B' 'G : 9HG C' B > :' >6;' :6 : :;' G:' B:C)JJ;'

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‘ +B :@f‘ @M>‘ ?A>:>‘B GB = "‘G: 4O‘ # "A>‘ = @">: @,‘
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2 ,E‘ 0‘ 4A>#‘ "A 4Of‘ #B 2:" M‘ "A>‘ A@, ‘ :2=‘ "A>‘4> ":@,‘ = @##‘ / 2 "B#f‘
BMA4 :‘ ">= ,>f‘ ?A 4A‘ , @#‘@‘ @4 M‘ ‘ I f‘ I Tf‘@ F‘ ‘ I T K
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B: :B' ' @B: A> 6B' F@ CG' > B @:6:B' B:6 ' '
B :'U;> 6 ' ?' G:' A: 9' C ? ?:6C:?:6 ' '
G:' 6 ; ?' F>B' 6' :> 9' >' :C ;' >6;' 6 ' >'
?: :' C> C8 > 6' @>C F> ;B' ' G:' ;> :B' > ' FG CG'
C: > 6' C: :B >' HG:6 ?:6>' ?8B' G>A:' > :6' H >C:'
>B 6 ? C>' B 8; :B' ?8B' G>A:' @: 86' >' >' H: ;'
6 '>6 : ' ' 8 G
'?8B'F:' ? ' '6 C:' 'F:' F 8 ;' :B ?> :'
> G' G:' C 6; 6' ' G> ;B:>6' > ' 86;: ' G B'
6 ' G:' 6; C> 6B' 8 6 BG:;' @9' G B' B 6: C9 6;: '
' > ' >B' F:' C>6' J8; :' ?' G:' :H :B:6 > 6'
FG CG' B' > ' G>' F:' H BB:BB' ' G B' : C' G:' ; >F 6 '
6' G:' C9 6;: ' F>B' >B' ;' >6;' G:' :6 >A 6 ' >B'
F: ' :D:C8 : ;' >B' >69' F ' ' G:' 6;' : G: ' ' G:'
BB9 >6' ' ' G:' > : ' $>@9 6 >6' H: ;' H> '
?' G:' 6BC H 6' G B' F ' '> 'G>B'6 G 6 '>@ 8'
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; :BB:B' >6;' G:>; :>' ' G:' 8 :B' G>B' @::6' > :>;9'
6 C:; ^' ' B' > B ' F G9' ' :?> ' G>' G:'
H 6C H>' 8 :' B B' 6' >6' 6>?:6 >' G 6:' 'CG> '
' H> C8 > 9' >B : 8' C 6B 8C 6' F ' : B' '
FG CG' >HH:> ' ' G>A:' @::6' ? ;: :;' > : ' G B:' '
G:' @8 ' ' D' 0 :' ?>9' C 6C 8;:' F G 8' ?8CG'
;>6 : ' ' ? B > :' G>' 6' G:' ?:' ' G:' ? 6> CG'
FG ' F6:;' G B' B:> ' ; :BB:B' ' ;: C> :' >@ C' >6;'
: >@ > :' H> : 6' >6;' 8 6 8 :' ' >' ?' >6;'
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8 G' >HH:> B' ' G>A:' @::6' B8CC:::;:;' 6' G:'
6 ; ?' @9' >' B 6' FG B:' 6>?:' ' B' H H B:;' ' :>;'
>B' ' ' ' ' G B' H 6C:' 8' 6 F:; :' B'
:DC:::; 6 9' BC>6 9' ' 6 9' >HH:> B' ?' 6BC H

6B' ' >' C ?H> > A: 9' :C:6 ' ;> : ' G> ' G:' C ?P H : : ;' B ?:' ' G:' @8 ; 6 B' > ' ' FG CG' G B' > G: ' G>;' : ' 86 6 BG: ; ' :BH:C > 9' G:' :> ' : ?H :' ' G:' % 6 ;' ' 8 G' : 6: ;' ?' >@ 8 ' $ ' - , X.' ' $ C' - , [, ' F :' ?>9' >BB 6' ' ' G:' 9:> B' 6C 8 ; : ;' @: F : :6' (. ' - , [,' >6 ;' (. ' - , \ [' 8 G' >6 ;' G B' B 6' ' > :' G 9' : > ; : ;' >B' G:' B:A:6 G' >6 ;' : G G' 6 B' ' $: B8B' B:C 6 ; ' ' B ' G> ; e>6 ' ;96>B 9 ' F :' ?>9' C 6C 8 ; :' ?' G> ' G B >6' G> ' G:9' F : :' F : ;' @9' G : :' G: ' ? 6> CGB' ' G: ' >C: ' FG ' : 6: ;# ?' >@ 8 ' $ C ' - , \ [' ' $ C' "X[5 ^' ' G B' H: ;' F :' ; ' 6 ' H BB:BB' >69' ? 68 ? :6 > ' :C ;B ' ' >HH:> B ' G FP :A: ' ?' G:' ? 68 ? :6 B ' G> ' 6 ' A: 9' 6 ' > : ' G:' ? :' ' 8 G' >6 ;' ' >' CG>6 :' ' ;96>B 9' ' H >C:' 6' G:' C 86 9 ' G:' ;' G> ; e>6' 6:' @: 6 ' B8H: B: ; : ;' @9' >6' > ? C' >? 9 #K FG CG' : 6: ;' N :' G:' ?: ' ;96>B 9S' > ' ' @8 ' H BP B:BB: ;' >' > ' ? :' :D :6 ; : ;' ; ? 6 6' ' G B' CG>6 :' F :' B: : ?' ' G>A:' >' : ?> >@ :' >C:' 6' G:' >CC 86 ' FG CG' C H 8 :' A:B' ' G: ; > ? : ' 9 >6' DH: ; 6 ' G: ; > ? : ' B' >6' >? C' 6 ' 4 9: ' G:' :D: C B:B' H> >? 86 ' >8 G 9' A: ' G:' FG :' ' F: ' %:B H >? >' ? >HG: ' 1 6 ' ' G 6> ' CG ' 1 6 ' ' > B>' ' >B> ' >6 ;' ;> # 1 6 ' ' G:' 6 ?>; C' >C:B ' > :' G B' @8 > :B ' h BB:BB 6 ' G8B' >8 G 9' A: ' G:' FG :' ' G:' > 8A > ' H > 6 ' >6 ;' @: 6 ' >@ :' ' C :C ' : G: ' >' ? ;>@ :' > ?9

% A>#>' F@">#!' >a4>' '" "A>' , @#"! A@D>' >4" A =' ? "A' *,@ =' 2:' +B# @ @ ' 2"A M' >a@4" @G2B" "A> = ' A>E' @:>' ' >,>=> "" "22' ' A # @"A>:'# @=>' 2: =>F' # = ,E' GE' @## M M' "2' >@4A' p @ @ p @ >@:# ' ", >' @=>' 2 ' 2 ' "A>' >,>D> ' O M# "A>' B = G>:' 2 ' @ @!' @' =2 B=> "@,' +B#@ ' O M!' E>@:# ?A 4A' "A>' O M# 2 ' "A # FE @#"E' ?A 4A' # B O 2? ' ' "A>' ,@ #B*B @' #>>=' "2' A@D>' :> M >F' ' ' & 2 ' A@,F:>@ ' >4B, @: " >#' ' "A>' 2: =' 2 ' C > ' a D ' I 7 BFB:5 @GBO'#' ,>"">:# #>>=' "2' 42 L

G:' :B A:B' 6' >6' :DH:; 6' 8H' G:' 8HG > :B '
0 G' G:' @J:C ' ' :D :6; 6 ' G B' ; ? 6 6' ' G:'
%:; : >6:>6' :>' >6;' ' G:' @ ;: B' ' 9H '
' B ' G B' :6;:>A 8 B' > :' B8CC:BB 8 ' : G: '
F G' G B' C 6 :;: > :' 6 B ' G:' ?> CG:B' >B' > ' >B'
> :B 6:' FG: :' G:' B' HH B:;' @9' G:' 6> A:' H 6C:B '
$: >' 6 ' ' ; ? ' $ BG>' 6 ' ' ? >G'
G 6>@' 6 ' ' ;?>G' G:?:@: ' 6 ' ' p:@ ? '
>6;' G:' 6 ' ' $: >' ' p > # ' :>' @> :' B'
8 G ' @: F::6' G:' F ' C 6 :;: > :;' > ? :B' 6'
G:' A> :' ' ;; ?' F> ;B' G:' F: ' :6;' ' G:'
:>;' :> ^' G:' 6A>;: B' > :' A C 8B4' >6;' '
F: A:' 9:> B ' $: >' >6;' G B' > :B' F: :' C 6 :6 ' '
F6' G:?B: A:B' B8@J:C B' ' G:' >? C' 6 ' FG ?'
G:9' KB: A:;L' ' G>' H: ;# 6' G:' G ::6 G'
9:> ' G:9' :@: :;') >' :6: >' B 6 ' ' G:' F:B : 6'
6> 6B' B::?B' ' G>A:' > :6' H >C:42' >6;' 6' ;: '
' ?> 6 > 6' G B' C 678:B B' ' F>B' 6:C:BB> 9' ' G:'
C 678: ' ' ?> :' >' :BG' : ' 6C:' ? :' G:'
8 ' :>B : 6' 6 B' :6 : :;' 9 >' >6;' > : ' A> 8B'
B8CC:BB:B' > > 6B ' ? 6 ' H F: B' :6 > :;' >' B:C 6;'
?:' 6' G:' A> :9' ' ;; ?' F G' G: ' ;' >6 > P
6 B B ' FG ?' G:9';: :> :;' F G' :> ' B >8 G : 4 > : '
FG CG' G:9' H 86;: :;' G:' CG : ' C :B' @: 6 6 ' '
G:? ^' ' F>B' 6' G B' CC>B 6' G>' ' G:' 6:HG:F'
' @ >G>?' F>B' > :6' H B 6: ' >;:6' F G' @ 9

%' 1> ' a D '
H >' #4> >' 2 '"A>' G@"",>' #>>=#"2'
A@D>' G>> ' "A@"' @:"' 2 ', >' ,@ '
?A 4A' ?@# @ ">:?@:F# #BG=>:M>F!'
?A> '"A>' @:>@' 2 '"A>' >@F' +>@' ?@#
>a"> F>F' 2= @:>' "A>' >a :>## 2 '
1> ' a D ' K!' N' ,,'"A>#>' ?>:>' 2 >F'
"2M>"A>:' '"A>' D@,>' 2 '+ FF =!' % '
"# "A>' #@,'" #>@' P' @ F' #>>' :'
) 2B,O>#%# @:" 4,>' 2 ' ' '
:'+= "A%# B 9 % 'G % '!' D2,

' ' R T!' RI
' \' ?>,D>' E>@:# "A>E' #>:D>F'
A>F2:5@2=>:!' @ F' '", >' "A :">> "A'
E>@:' "A>E':>G>,,>F P' 1> ' a D ' U K
C = 2 M' "A>' @" 2 # 4A@#" #>F'
GE' A>F2:5,@2=>:' 2 ' A # #>42 F'
D@# 2 ' ?>' F' "A>' *> F @ :@' 2:'
N' 1 @ "#!S' "A>' fBb !' "A>' * = =!'
"A>' 2: ">#!' "A>' = 2: ">#!' @ F' "A>'
= @,>O ">#' 1 4B ' a D ' Q5R K
< 1> ' a D ' T5I

' A> 8B' 6;B' >6;' :6C8?@: :;' F G'>'68?@: ' ' 6>H A:B' ?> :' >6;' :?> :=' G:' C 678: 6 ' > ?9'B: ' 8 '8H 6' B' ?> CG'G ?:'>6;'G>;' :>CG:;' G:'6: GP @ 8 G ;' ' >?>BC8B' FG:6' ' F>B' > >C :;' >6;' ;: :> :;' @9' @ >G>?' FG ' F G' >' B?> ' @>6;' A:6 8 :;' 86;:' C A: ' ' 6 G ' ' > ' 8H 6' G:' : :> 6 ' G B ' FG CG' G:' 8 :;' >6;' H8 B8:;' ' B ?:' ;B>6C: ^' G:' >C 8>' B >8 G :' C>6' BC> C: 9' G>A:' @::6' :>'4 @8' G:' H B 6: B' >6;' G:' @ 9' > :6'G>;' '@:'B8 :6;: :;'4 G:'H :B :' 'A C 9' F>B' B'J >6;' G:' :B8 ' >HH:> B' ' G>A:'@::6' G>J' G:'%:B H >? >6' ? 6> CG' : 678 BG:;'G B'H J:C B' >6;'C 6 :6 6 ' G ?B:'F G' G ' >?:' >C78 :;' @9' B8CG' ; B >6' :DH:; 6B' ?>;:'6 ' 8 G:'> :?H' ' C> 9' G B':?H :'@:9 6;' G:' 8HG > :B #

' G>B' @::6' G 8 G ' @9' ?>69' >6;' > > 6 ' G: B' @9' G:' >8 G ' ' G:' H :B:6 ' A 8?:B 7' G>' G: :' F: :' 86;B' ' ;:6 9 6 ' G:' :>' ? 6> CG' ' FG ?' F:' G>A:' G B' >CC 86 ' 6' C H 8 :' F G' >' C: > 6' ? 68?:6 >' 6 ' FG B:'6>?:'G>B' @::6' :>;' 8H 6' G:' @ C B' >B' 18;8 ?>@8 ' ' 18;8 ?>H8 >' G B' 6 '>HH:> :;' ' B96CG 6B:'F G' G:'H @>@ :' ;> :' ' @ >G>?'=' G B' 6>?:' > ::;' 6' 6:' : :?:6

M 1> 'a D' IJ
H @E' 2'' "A>' ":@F " 2 !' ", @'' G:@A@=' ?@#' O M' 2 ' @=@#4B# 4' @='):' K!' G>' 42 >4">F' ? "A'"A #'>a ,2 "9' '' 42B,F' #4@:4>,E' A@D>'G>> ' M:2B F>F' 2 '"A>' =>:>' @4'' "A@'' A>' A@F' 2:'#">?@:F' @' @" D>' 2 ' "A@'' 4 "E ' 1> 'aD' K
H A>'>a :>## 2 ' 'D>:#> R' 2 '"A>' B"A2: b>F' ->:# 2 !' N'"A>' 2 ' A>F2:5,@2=>:!' @ F' 2 '"A>' O M# ?A 4A' ?>:>' ? "A' A =!P' #' 2D>:5' ":2 M' ,>' >G:>?' A:@#>' + ' F2>#' 2'' =>@ ' =2:>' "A@ ' N'F> >@'' P' 2:' N'2D>:"A:2? P

Ć +>>' += "A%#' G % ' ' ' : !' @F' D24' # (' (' @ F' 9 $# ' - % !' 'QJ!' F' >F " Ć '' #' B F2BG">F,E' F 4B,'' "2' 2GL "@ ' :2=' +4: "B:>' @ ' >a@4'' F@">' 2:' G:@A@=' , "2 ' ,@4>#' A #' F>@"A' ' 4' ITQQ!' @ F' 42 #>^B> ",E' =@O>#' A =' :># F> '' ' @ @@ ' $' 2' QQ' "2' 2' ITQQ' : ' @,=>:'G: M#' A =' "2' @ @ ' E>@:#' >@:, >:5' ' 4' U!' @ F' ,@4>#' A #' F>@"A' ' 2' IT U8' ; '# ' 6 % !' 0&' ' ' TR K' 2?' 7BFB:5 @GBO' ?@#' 4>:"@ ,E' G> 2:>' #= 5F@M2 !' ?A2#>' F@">' #' a>F' "2' "A>' = FF,>' 2 ' " >

-,5 & % & '

F G> G: ; > ?: >6; FG: ; ; B> ::; G: ; B> ::?:6 F>B G 8 >;? :DH >P 6> 6 4^ >@ A: > G: @ : 6 G B 6BC H 6B > : CG&5 K FG CG F>B H H B:; >6B > : >B K >A> : G: 0 :B L >HH> :6 9 6 C ??:? P > 6 G: A: 9 :DH B ;:BC @:; 6 :6:B B $8 G: H :BB C86: ?; BC A: 9 G>B 6 @::6 >A 8 >@ : G: H H B:; ;:6 C> 6 G: F : FG B: >8 G 9 B G: :> :B 6 G B : ; 678 9# B 6 F H 6 6 G> 18;8 ?>@8 >6; G:; > ?: G 8 G 6: >? 9 F: : ; B 6C H: B 6B & : 6;B :>B 6 : > ; @ G 6>?:B >B H8 : 9 &>? : ^ >6; >B :BB:6 > 9 ; B 6C 4 G: B 6 C: > 6 G: :> ?:>6 6 G: :DH :BB 6 &5 K Y >6;# G: G 6 B 6 G: FG : B> :B > H :B:6 ; : > ; G: B 18;8 >B G: 6> 8B >6 >6 C 678: FG :B >@ BG:; G B ; ? 6 6 A: G> ;B:> >6; G: B:C 6; 18;8 >B > ;:BC:6;P >6 > 6 : C 6B:78:6C: G B A :F @: > :6 F: ?8B :6 > : G: B :> 9 G> ;>:>6 6 B >6; : > ; 6 G:; > ?: >B G: B ? 6> CG $: B8B< B:C 6; G> ;>:>6 ;96>B 9 H >C:

>"2> "A 4> "B:E 2 @ F p@# # :2G@G,> pA> ?@# "A> :#" O M 2 >:2#B#% "A :F FE @#"E! @ F #2 @#4> F>F "A> "A:2 > ITRJ! A # >a >F " 2 "2 +E: @ ?2B,F #E L 4A:2 #> >a@4",E ? "A G:@A@=%# F@"> @442:F M "2 , "2 C A> :#" >,>=> " "A> @=> p * p # @ :,E > 2BMA ":@ #, ">L :@">F "A> >G:>? A>F2: @) ! "A> 2"A>: >,>=> "! ?@# "A2BMA" "2 G> > "A>: "A> @= " 4 >^B D@,> " 2 $! 2: @ B =5 2:"@ " @:" 2 "A> @=> ?A 4A A F G>> F:2 >F! @ F @ ">:?@:F# :>L ,@4>F GE @ F>#4: " D> > "A>" +>> "A> @B"A2:%# 9 ! D2, U J! 2">% K + : @?, #2 A> D >?# 2 "A # #4A2,@: ? ,, #A2:",E @ >@: "A> #>42 F >F " 2 2 "A> @B"A2:%# 9 &

< A> >G:>? #! " @ L >@:#! ?>,, :> F>:>F GE ", > +> "B5 @M " .N+2. .2E2Xam - P $ # @ +B# @ @ M2F! @ F *]- $?2B,F G> N "A> #>:D@ " 2 / @M@=>:!P @ @=> 2:=>F @442:F M "2 O 2? @ @,2M ># A> >G:>? - A@# 2 "> "A> 2:4> 2 @ ! @ F # :2G@G,E "A> 2: M @, 2:= :2= ?A 4A "A> 1:>>O ' ?@# "@O>

‘ ' ‘ 1 % $ 1‘ ‘ % -,[

> : ‘ G ? ‘ H @>@ 9‘ >B‘ 6:D ‘ B8CC:BB ‘ 6 B@ ‘ @> ‘ G:‘ > G: ‘ ‘ 18 8 ?>@8 ‘ >6;‘ G:6‘ 18;8 ‘ ?>@8 ‘G ?B: ‘ FG ‘ G8B‘ @:C ?:B‘ G:‘ B D G‘ 6 F6‘ ? 6> CG‘ 2

18;8 %>@8 <B‘@ C B‘G>A:‘@::6‘ ?;‘> ‘%8 G: ‘ ‘ ‘ 6 9‘ &:‘ ; :B‘6 ‘ >HH:> ‘ ‘ G>A:‘ @::6‘ >‘ :> ‘ @8 ;: ‘ G 8 G‘ ‘ >‘ >C:‘ >HH> :6 9‘ 6 9‘ C 6> :‘ ‘ G> ‘ ‘ G:‘ G> ; :>6B‘ G:‘ ?> 6 > 6:;‘ G: ‘ : 6‘ 86CG>6 :;‘ >;; 6 ‘ ‘ G:‘ ;‘ :?H :B‘ >6;‘ F BG HH 6 ‘ G:‘ ;B‘ 86;: ‘ G:‘ B>?:‘ :B‘ &:‘ ?>9‘@:‘ : > ;:;‘ >B‘ G>A 6 ‘ : 6:;‘ ?‘ >@ 8 ‘ $C‘ "X.j‘ ‘ $C‘ "X",‘ &:‘ F>B‘ H @>@ 9‘ B8CC::;:;‘ @9‘ G B‘B 6‘ ; 6‘ FG ‘ B‘ ?:6 6:;‘ 6‘ G:‘@ C B‘ ‘ G B‘ > G: ‘ ; 6‘ ?>9‘ G>A:‘ : 6:;‘ ?‘ >@ 8‘ $C‘ "X",‘ ‘ $C‘ "+X,

G:‘6:D‘ ‘ G:‘ ? 68?:6 >‘ 6 B‘ ?8B‘@:‘H >C:;‘ >@ 8‘ 9‘9:> B‘ > : ‘ :66>CG: @‘ 6‘ >‘ C‘ 6P BC H 6‘ >‘ $>A >6‘ : > :B‘ G>‘ 6‘ G B‘ :6 G‘ 9:>‘ NFG CG‘ F>B‘ 4‘ 5X-S#G:‘ :C A: :;‘ ?‘ $>@9 6‘ C: > 6‘ ?> :B‘ ‘ G:‘ ;B‘ FG ;‘ G>;‘ @::6‘ C> :;‘ G G:‘@9‘K 6 6 "1 6‘ ‘$>@9 6‘> :‘ G B‘ ;: :>‘ ‘ > G :B: ‘ 1 6‘ ‘ BBJ8<>‘ \"+‘ 9:> B‘ H :A 8B 9‘ 6;‘ G:‘ B>?:‘ > G :B: ‘ : > :B‘ G>‘G:‘ :@8 ‘>‘ :?H :‘ 6‘ BB9 >‘FG CG‘ G>;‘ @::6‘ > :6‘ ; F6‘5,‘9:> B‘@: :‘> : ‘ ‘ G>;‘ >B :;‘ 5\"‘ 9:> B‘ ?‘ B‘ 86;> 6‘@9‘ G>?>B '8‘B 6‘ E‘ B? ;> 6# ‘ :B8 B‘ ?‘ G:B:‘ 68?@: B‘ G>‘ B? ;> 6‘ F>B‘ 6‘ >B‘ :> 9‘ >B‘ $C‘ "+j,‘ ‘ H @>@ 9‘>‘ :‘:> : <

Ć +>>‘"A>‘ @B"A2:%# ! D2,‘ >@:,>:!‘ 2:‘ '" ?@# @'" "A>‘D>:E‘G>M L ‘ *##@E‘D ‘ ‘U ! 2">‘ M‘ 2‘A # :>M‘ p‘#@E‘ ‘ ‘ ‘ ‘+> @4A>: G%# I "A‘E>@:‘# (‘ FF‘"A>‘ ‘E>@:# FB: M‘ ?A 4A‘"A>‘ JT<! M,@"A5 ,>#2:%# F> >@" =B#" GB ,F M‘ A@F‘G>> ‘ ‘ :B # @ F‘ "A>‘ A@D>‘G>> ‘ ‘ ‘ I ‘ # :>#"2:L 1UI‘FB: M‘?A 4A‘ '" G@F‘ #"22F! @ F‘ @" 2 ‘ 2‘ "A>‘ ">= ,>‘ ?@# 4>:"@ ,E ?2‘A@D>‘ 2‘ IQ I‘ 2:‘ "A>‘GB ,F M

G:' ? 68?:6 B' 8 6 BG' :' 6 ?> 6' C 6P C: 6 6 ' B? ;> 6'@:9 6;' G:' :A ; :6C:' FG CG' G:9' > ;' ' G:' :D :6B 6' ' G B' 6 B' ; ? 6 6' 6 ' G:' 8HH: ' H> ' ' G:' %:B H >? >6' A> :9' >6;' :BH:C > 9' 6 ' G:' C 86 9' 6 F6' 6' > : ' ? :B' >B BB9 >' G:' >C ' G> ' G> 6>B 8 ' G:'B 6' ' B? ' ;> 6'@8 ' >' :?H :' > ' 1 :G G: G> ' ?H :B' 6:C:BB> 9' G> ' G:' G> ;>:>6B' > ' G B' ?:'G :'BF>9' 6' G:' 8HH: ' : 6' G>?>B A>' >HH:> B' ' G>A:' @::6' 6 ' G:' : ;:B ' @8 ' G:' B:C 6;' B 6' ' G:' ? 6> CG' >6;' ?8B'@:'A :F:;'>B' 8 6 ' A: ' BB9 >' 6' G:'C>H>C 9' 'A C: 9' : G: ' 'G B' > G: ' 'G B' @ G: ' 8CG' :A ; :6C:' >B' F:' H BB:BB' ' G:' C 6P ; 6' ' BB9 >' >@ 8 ' G:' H: ;' B:: ?B' ' BG F' G> ' ' F>B' F:> I' >6;' 6B 6 C>6 ' >; ? 6 B : :;' ; 6> 9'@9' $>@9 6 >6' B> >HB' ' A: 6 B'FG B:' C:' F>B' 6:' '6 ' :>' >6 ' ' ; 6 9 ^

6' G> ;>:>' B? ;> 6' F>B' B8CC: : ; : ;' @9' >' B 6' FG B:' 6>?:' B' :>;' F G' >' @ ;' ; :>' ' 86C: > 6 9' >B' @ >68 ;8?>' G B' H 6C:' B' 6 F6' ' 8B' :BH:C > 9' >B' G:' @8 ; : ' ' G:' :>' H8@ C' C:?:P : :B' FG CGZ' 6 F' H?' G:' ? B' C 6BH C8 8B' 2@J:C B' >? 6 ' G:' 8 6B' '%8 G: ' >6;' G:' C 6B 8C 6' 'FG CG' B' B ' :?> >@ : # &:' F>B' F:;' 6' G:' 6 ; ?' >HH> :6 9'@9' G B' B 6' 86 86>' ' 8 ' 86>' ' FG ?' 6 G 6 ' @8 ' G:' 6>?: (FG CG' B' B: 'A: 9' ; 8@ 8 (B' :C ; : ;' G:B:' ? 6> CGB' H @>@ 9' : 6:;' ?'>@ 8' 4' "+-j' '$ '"[[j & G: ' G: :'G>B' @::6'6 ' :>' ; C8 9' 6' ;:

2' "A>' 2: M @,' ">= ,>' GE' +A@=@#5' @"' 7 ,>A5+A>:MA@"' A>' "',>#' @#L -B,' A>'F@">'2'A #' @"A>:\#' @44>#L #B=>F' @:>' #@ F' "2' NG>,2 M' "2' "A>' #2' #A2B,F' A>' @"' ,>@#"' ' E>@:#' =2#"' AB=G,>' 4,@##' 2' F M " >#P' >@:, >: p2:' (. ' I QI + :' ' 7@?, #2 !' ' "A>' @B"A2:\#' C :>>' 2:' 2B:' "@G,>"#' 2' @GEL 9 !' D2/' ' ' UU !' 2">' &7(,2 @' #@":@ # A@D>' G>> ' F #42D>:>F C' +>>'@G2D>!' 4A' - !' ' I T5I I I

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G:' ? 68?:6 >' 6 ' FG ' B' G 8 G ' 'G>A:' >HP H >CG: ;' G ' 6:> :B ' ' 8 86>' B' > >? B 6' ' FG ?' :C ;B' G>A:' @: : 6' ; BC A: : ;' > ' $>@9 6 ' >6;' FG ' B' ? :6 6: ;' 6' >' > :' 6BC H 6# >B' G:' @8 ; : ' ' >' : ? H :' > ' H H> >' ' :HG> A> ? ' G:' ? ; : 6' % B> @' & B' ;> :' B' H @>@ 9' >@ 8 ' $ C' "[j, ' G:' B:> ' 'G B' C 8 ' ? >9' @:' C 6J:C 8 : ;' ' G>A:' @: : 6' $>@9 6 ' FG CG' G>;' @9' G B' ? :' B:6' 6 ' ? : H P >6' C 6B:78:6C: ' ' B' :A ; :6 ' G> ' >B' ? :' F:6 ' 6 ' G:' :6; :6C9' F>B' ' : ? A:W G:' B:> ' ' A: 6P ? :6 ' >6;' : ? H :' ' >' :> : ' ; B >6C:' ?' G:' B:> ' G:' :> 9' ? 6> CGB' : 6' > ' ' N%8 G: S' >6;' :>A:' 6 ' >C:B' ' G: ? B: A:B' 8 G: ' 6 G' G>6' : ' 6 BG>;>' G ;B' G B' C 8 '>' :CGf' N 0 > >*

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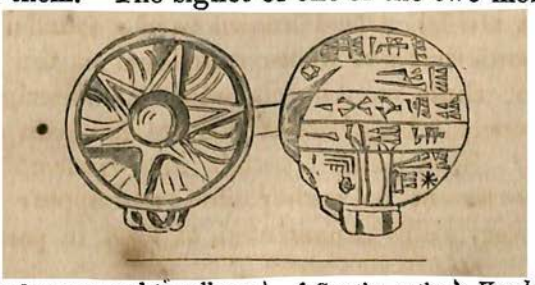
the same time they contain among their *débris* remarkable proofs of the small advance which had as yet been made in some of the simplest arts. Flint knives and other implements, stone hatchets, chisels, and nails are abundant in the ruins; and though the use of metal is not unknown, it seems to have been comparatively rare. When a metal is found, it is either gold or bronze, no trace of iron appearing in any of the Chaldæan remains. Zur-sin, and two or three other monarchs of the *Sin* series, whose names are imperfect or uncertain,[5] may be assigned to the period included between B.C. 1700 and B.C. 1625.

Next in order to the kings of the *Sin* series may be placed two monarchs, a father and a son—by name Purna-puriyas and Durri-galazu—whose memorials have been found in many parts of the country. These kings had been already connected together by the near resemblance of the legends on their bricks,[6] though the bricks themselves were found at places very remote from one another, when a fresh discovery at once showed the soundness of a judgment based upon such resemblance, and established beyond controversy the nature of the connexion existing between them. The signet of one of the two monarchs



[5] It has been proposed to call one of these kings Rim-sin. He has left a very fine inscription on a small black tablet, found at Mugheir.

[6] See the author's *Herodotus*, vol. i. Essay vi. pp. 439, 440; and compare Loftus, p. 435.

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FB:@ = "‘ :@M=> "@!‘ G@BF‘ = :@G>: #‘
D@: ,@‘ =2F #‘ D>:G@‘ >:2#‘ F> 2:=@"@‘
>##>!‘ 4@D> FB=^B>‘ >‘ >:2#2‘ = B5‘
">=B#‘ ^B}‘ #B "‘ = "@ F@‘ >a44: 5‘
"2: GB# S‘ -= 9" ‘ : ‘ > ‘ D2,‘ ‘
‘ U K

G:‘ ? 6> CG9‘ FG CG‘ F: G>A:‘ G>;‘ 86;: ‘ :A :F ‘ B‘ 6:‘ 6 ‘ ; 8@‘ > G: ‘ C8 8B‘ ?‘ B‘ >6 78 9‘ G>6‘ 8B 8B‘ ?‘ B‘ :> ‘ 6>?:B‘ ‘ >;? >@ :‘ ‘ G:‘:D :6 ‘ ‘ B‘ ; ? 6 6B‘ :BB‘ >6C :6 ‘ G>6‘ G:‘ 9H >6 ‘ ‘ C > ?B‘ G:‘ >;A>6 > :‘ ‘H 9‘ A: ‘ :A: 9‘ :?H :‘ ‘ 6 ; ?‘ FG CG‘ G>B‘ F6‘ 8H‘8H 6‘ G:‘B ‘ ‘ B >‘ G:‘ >6‘ 8 >6 >6‘>6;‘ :A:6‘ G:‘ :? C‘ @:B‘ >HH:> ‘ ‘ G>A:‘ @::6‘ 6‘ G:‘ 6 ?>;C‘ C 6; 6‘ FG:6‘ G:‘ 8BG :‘ B: : B‘ 6‘ F: ‘ $>@9 6>‘ @: ‘ G:?B: A:B‘ ‘ > C8 8 :‘ : :C :;‘ :?H :B‘@8 ‘ C :B‘>6;‘:B >@ BG:;‘>‘B 6 ‘ >6;‘B: :;‘ A: 6?:6 ‘ G:‘ :>A:6‘ FG CG‘ F>B‘ ‘ BH :>;‘@9‘;: ::B‘ G 8 G‘ G:‘ B > C‘H: H :B‘ F> ‘ B‘;:H B :;‘ 6‘ G:‘BG :B‘ ‘ G:‘ : B >6‘ 8 ‘ >‘ G:‘? 8 G‘ ‘ G:‘ :>‘ A: ‘ >6;‘G:6C:‘C A B>P 6‘BC :6C:‘ : : B‘> ‘:D :6;:;‘ G:?B: A:B#6 GP F> ;‘>6;‘ :>B F> ;‘>6;‘F:B F> ; ‘ BB9 >‘%:;>‘ :? C‘ $>@9 6>‘ : B>‘>B‘ G:9‘ ;: A:;‘ ?‘ G> ;B:>‘ G:‘CG> >C :‘ ‘ G: ‘F 6 ^‘B‘F: :‘ G:9‘ 6;:@ :;‘ ‘ G:‘ B>?:‘ C 86 9‘ ‘ G: ‘ :6: >‘ 6 6B‘ ‘ A: 6?:6‘ >6;‘>;? 6B > 6‘ ‘ G: ‘ > CG :C 8 :‘ G: ‘ ;:C > A:‘ > ‘ >6;‘ B ‘ ? :‘ ‘ G: ‘ BC :6C:‘ >6;‘ : > 8 :‘ >CG‘ H: H :‘ 6‘ ; 8@‘ ? ; :;‘ 6‘ B ?:‘ ?:>B8 :‘ G:‘ @ 6‘ :C: A:;‘ >;; 6‘ ? :‘ ‘ :BB‘ ‘ B‘ F6‘ ‘ G:‘C ?? 6‘ 6P G: >6C:‘ ‘ $8‘ G> ;>:>‘ B >6;B‘ G‘ >B‘ G:‘ :>‘ H> :6‘ >6;‘ 6>‘ 6A:6 :BB‘ ‘ B > C‘C A B>P 6‘ F G J4‘ >69‘ A>‘ G>‘ C>6‘ :>B 6>@ 9‘ ; BH8 :‘ G: ‘C > ?B

%‘ 1:> ‘ . -‘ I ‘‘ 4B"‘ ‘ R‘‘ $2#A!‘ "A> :‘ ,>"">:#‘ @:>‘ 2:=>F!‘ "‘ #>>=#‘ U @,=2#"‘ 4>:"@ ‘ "A@"‘ "A>E‘ ,>@: ‘‘ "A>‘ %‘ A>‘ @, A@G>"#!‘ @#‘ ?>,,‘ @#‘ "A>‘ @:"‘2‘?: " M‘ :2=‘2 >‘@ 2"A>: ‘ ‘ ,@ MB@M>#!‘ 2‘ "A>#>‘ D@: 2B#‘ :@4>#‘ #2!‘ A@,F=@‘ A@#‘ 2‘ >D>:E‘ M:2B F‘ F >:‘ ‘GB"!‘@#‘@,,‘ @##B=>‘", >‘?>FM>‘ "A>‘G>#"‘2, =‘"2‘ G>‘ :>M@:F>F‘ @#‘"A>‘ @#‘"A>‘B," =@">‘>,>=>B"‘2B"‘2‘?A 4A ">@4A>:‘2‘"A>‘2"A>:#

G:' :>'?:6' 'G:' ?H :'>:' ? ;J' * 8 G' >6;' G:; > ?:' ? ;' G:' 86;: 4' G>B' G:' :B ? 69' ' C H 8 :' G>' G:' F>B' K'>' ? G 9' 6:' 6' G:' :> G'4 K'>' ? G 9'G86 :'4L# G:' :B >GGBG: '>' K' 6 ; ? L' FG:6' 6 ; ?B' G>;' BC> C: 9' @: 86' '@:' 6 F6'4 G:'@8 ;:' ' 8' :>'>6;' >? 8B' C :B' K$>@:' >6;' :CG' >6;' CC>;' >6;' >6:G' 6' G:' >6;' ' G 6> L^' %:B H >? >' ' G ?' @: 6 B' G:' ?: ' 'B: :C 6 '>'B :' H:C8 > 9' :;' ' G:' ;:A: H?:6' '>' :>'H F:' 6' G:' :> 9' > :B' ' G:' F ;'7 >6;' '@ 6; 6' ?:6' :G:' 6 '>' C ??86 9' FG CG' :A:6 B' H A:;' ' H BB:BB' F G 6' ' G:' : :?:6 B' 'H BH: 9'>6;' H: ?>6:6C:' 0 G: G:' @:' G>;' 6;::;' G:' :@: 8B'>6;'>H B > :' CG> >C :' FG CG' 68?: 8B' >; 6B' *:F BG' >P @ >6' #>6;' ?:6 >6 ' >BB 6' ' G ?'4 FG: G:' G:' F>B' 6' :> 9' C 6C: 6:;' 6' G:' @8 ; 6' ' G:' F:' :> :;' 6' G:' : :A:6 G' CG>H :' ' G:' $ ' :6:B B ^' F:' G>A:' 6' ?:>6B' 'H B A: 9' ;: : P ? 6 6 ' G:' >6 8> :' ' C H 8 :' F G' : > ;' ' ? ;' B' >8;> 9' > G:' G>6' G:' C 6 > 9' >6;' ' F 8 ;' B:: ?' ' G>A:' @::6' ?'>' ? B>HH :P G:6B 6' ' G:' ; ' ' G:' % B> C' 6> > A:' G>

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' ',@">:'" =>#!' ?A> '4D,#@" 2 'D:@# =2:>' @FD@ 4>F!' ,>## :B " B,' ":@4"# =@E!' GE' 4@,, M' 2:"A' => '#' 2?>:#!' A@D>' :2FB4>F' "A>' =2#" B ##@ '" :@4>#' #>>' >:2F' a' @F' K'GB'" '"A>' :#"@M>#2 ,E' >:",>' :>M2 # 42B,F' B:"B:>' @ F' F>D>,2 'M:>@" >##' *,#>?A>:>' =@ '#' , >'?@#' @'#":BMM,>' 2:'G@:>'>a #"> 4>
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H' 1> 'a' I5T
P' =:2F' #4@,,>F' N @'= MA"E'2 >' '"A>'>@:"A!P'@ F'N @'= MA"E' AB ">:

G:' O; 6B' >@ A:' ?:6 6:;' 6> :; ' ? ;' K' G:' ? G 9' G86 : ' ' ' - ' G>;' 6 ' 6' G:' ;>9B' ' % B:B' G>' ' :H8 > 6' FG CG' > >CG:;' ' G ?' 6' > : ' > :B' FG:6' G:' F>B' : > ;:;' >B' G:' :>' >6' ' >6 ' FG ' ?>;:' F>' 8H 6' G:' ;B' >6;' FG ' F>B' >' 6C:' G:' @8 ;: ' ' G:' F: ' >6;' G:' H: B:C8 ' FG ' C:;' @ >G>?' ' 78 ' G B' 6>' C 86 9' ' B' >' :>B' ; 8@ 8' FG: G: ' F:' 8 G ' ' > F' >69' F: G' >' >' ' G:' >;; 6B' >6;' :?@: BG?:6 B' A G' FG CG' > : ' F : B' B ' ?8CG' F B: ' G>6' % B:B ' G>A:' A: > ;' G:' B ?H C 9' ' G B' 6> > A:

* 8 G' FG B:' >?:' G>B' @::6' BG F6' ' G>A:' :>CG:;' G:' $?>6B ' F>B' G:' :>' G> ;>:>6' ' ' G ?' @: 6 B' >HH> :6 9' G:' C 6C:HP 6' ' G:' $>@9 6 >6' :?H :' F G' B' :C >6 8 >' @>B:' C> : 8 9' H >C:;' B ' >B' ' H :B:6' B' >6 :B' ' G:' 8' C> ; 6>' H 6 B' B' :C:; 6 ' B > :B' B' @8 P :BB:B' B' ; > 6B' B' B H:;' F> B' B' :D : 6>' B > C>B:B' ' >BC:6 ' >6;' B' 6>?:6 >' BG 6:' C F6P 6 ' G:' FG :' ' >69' > :' ' G:' F>B' 6 ' G:' B' ' C 6C: A:' >6;' : :C ' B8CG' B 8C 8 :B' G:' B: ' G:' :D>?H :' ' @8 ; 6 ' G:?' 6' B8CG' >' BC> :' >6;' F G' B8CG' B ; 9' >B' ' B:C8 :' G: ' 6 ' C 6 68>6C:' >6;' :6;: ' G:?' F: ' 6 G' ?H: BG>@ :' G: :' B' 6 ' >HH:> >6C:' 6' > ' G> ; :>' B ' > ' >B' ' G>B' @::6

7 ' ' - &7,' @ E' 42= => "@L "2:# A@D>' 2G#>:D>F", @'" "A>' A:@ #>' ' "@, 4# # @,=2#" @,?@E# B#>F' ' @ M22F' #> #>!' = ,E M' "A>' 42B ">L @ 4>' @ F' @D2B:' 2 ' 12F!' @ F' A # G,>## M' 2 ' "A>' ?2:O' ?A 4A' # #@ F' "2' A@D>' G>> ' F2 >' N'G> 2:>'P' A =!' 2:' N' ' A # # MA" P

Ć 2= => "@"2:# #>>='M> >:@,,E' "2' A@D>' #B 2#>F' "A@'" "A>' GB ,F' M!' 2:' @""> = '" "2' GB ,F!' F>#4: G>F' ' , > a ' I5T!' # "A>' GB ,F M' 2 ' @G>;' @#4: G>F' "2' =:2F' ' 1> ' a ' I ' B'" "A # 4@ 2" G>' #28 2:' ' 1> ' a ' ?>' @:>' "2,F!' N' "A>E' ' ' "2' GB ,F' "A>' 4 "E P' A>' ":B"A' #>>=# "2' G>' "A@'" "A>' "> "A' 4A@ ">:' # @L :> "A>" 4@,!' @ F' "A>' @B"A2:' ' 4A ' a ' "@O># B ' "A>' @::@" D>' :2=' 4A ' a !' M2 M' G@4O' "2' @' " =>' 2" ,2 >' @ ">:' "A>' K O

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:DH : ; ’ ‘ >69‘ @8 ; 6 ‘ F@ C@‘ C>6‘ @ :‘ :A:6‘ H @>@ 9‘ >BB 6: ;‘ ‘ >‘ ;> :‘ >6 : ‘ ‘ 8 G‘ G:‘ > P : ? H : ;‘ F: ‘ F>B‘ 6 ‘ ; 8@‘ :> : 4‘ >6 ;‘ ‘ ! ‘ G>A:‘ @: :6‘ >‘ @8 ; 6 ‘ ‘ G:‘ B>? :‘ 9 H : @ 8 ‘ G: :‘ B‘ 6 ‘ :>B 6‘ ‘ @: :A:‘ G> ‘ >69‘ : ? 6>6 ‘ ‘ 6 ; : : ;‘ >69‘ >C: ‘ ‘ G B‘ H ? A:‘ : ; C: ‘ G>B‘ C 6 68: ;‘ ‘ :D B ‘ ‘ 8 ‘ ;>9 ‘ G:‘ B 8C 8 :B‘ ‘ G:‘ ? B ‘ > CG> C‘ CG> >C : ‘ G 8 G 8 ‘ G> ; :>‘ > : ‘ 6:‘ >6 ;‘ > ‘ G:‘ F ‘ ‘1 6 ‘ * 8 G‘4 FG ‘ F>B‘ 6 ‘C 6 :6 ‘ ‘ >; 6‘ G B‘ ? : H >6‘ C 9‘ 6 9‘ F G‘ 6:‘ ‘ G:‘ 6: F‘ : ; C:B ‘@8 ‘ >; : :‘ >‘ B ? > ‘ 6>? :6 ‘ ‘ :>CG‘ ‘ G:‘ :> ‘ C :B‘ F G 6‘ G B‘ : ? H : G:‘ :> ‘ @8 ; : ‘ F>B‘ F: ;‘ BG 9‘ @9‘ G:‘ :> ‘ / ‘ 18;8 > >? : ‘ G:‘ >? C‘ H 6C: ‘ FG ‘ 6:> 9‘ F:6 9‘ C:6 8 :B‘ @: :‘ 8 ‘ : >‘ G>A 6 ‘ :D :6; : ;‘ G B‘ ; ? 6 6‘ A: ‘ $>@9 6 >‘ >6 ;‘ G:‘ >;P J 6 6 ‘ : 6B‘ ?> CG: ;‘ >6‘ > ? 9‘ >‘ ; B >6C:‘ ‘ "- , ,‘ #? :B‘ ^ ?‘ G:‘ BG :B‘ ‘ G:‘ : B >6‘ 8 ‘ ‘ G:‘ :> ;‘ :> ‘ >6 ;‘ G: ;‘ > :B 6:‘ >6 ;‘ 9 >‘ 6‘ B8@J:C 6‘ ‘ F: A:‘ 9:> B‘ G8B‘ : :C 6 ‘ C 678:B B‘ FG CG‘ F: :‘ 6 ‘ > > 6‘ ?>; :‘ ?‘ G:‘ B>? :‘ 78> : ‘ ‘ G:‘ ? :‘ ‘ :@8CG>; 6: ``> ‘ 8 : :6‘ G86; : ;‘ 9:> B‘ > : P F> ;B ‘ G>B‘ >‘ ;‘ C > ?‘ ‘ @:‘ : > ; : ;‘ >B‘ 6:‘ ‘ G:‘ ? B ‘ : ?> >@ :‘ H: B 6> :B‘ 6‘ G:‘ F ;‹B‘ G B 9‘ (@: 6 ‘ >B‘ G:‘ B ‘ G:‘ : 866: ‘ >6 ;‘ H 9H:‘ ‘> ‘ G B:‘ :> ‘ :6 > ‘ C 678: B‘ FG ‘ ?‘ ? :‘ ‘ ? :‘ G>A:‘ @8 ‘ 8H‘ A>B ‘ : ? H :B‘ 6‘ B >‘ 8 ‘ ‘ G: :P :6: 8B‘ ?> : > B ‘ FG CG‘ G>A:‘ 6‘ >‘ 6 : ‘ ‘ >‘ BG : ‘ BH>C:‘ B8CC:BB A: 9‘ C 8 ? @ : ;‘ ‘ ; : C>9 ‘ ‘ >

H +>>‘ "A>‘ @:" 4,>‘ 2 ‘ "A>‘ N‘ 2?>:‘ >@:,E‹ 2 ‘ ,> 2!‘ @ F‘ "A> ‘ F2D=‘ 2 ‘ @G>,S‘ ‘ + = "A%‘ G % ‘ ' ‘ +E: @‘ "2‘ "A>‘ >@F‘ +>@‘ A # ‘ # I ‘ ‘ : !‘ D2, ‘ ‘ ‘ IQ 5IJ = ,># ‘ A>‘ F :>4" F #"@ 4>‘ GE‘ "A>‘ C ‘ +>>‘ @G2D>!‘ @M>‘ ITT F>#>:" ‘ # 2" =2:>‘ "A@ ‘ ‘ = ,># "‘ < A>‘ = @:4A‘ ?2B,F‘ >44# ,@: ,E‘ A2‘ GB" "A>‘ F>#>:" 4 B 2" G>‘ 4:2##>F‘ GE‘ @,2 M "A>‘ * B A:@">#‘ "2‘ "A>‘ ,@" "BF> @ ‘ @: = E

? :' F :6' :' 6 B' ' 9H ' G>;' 6:A: ' A:6 8 : ;' @:9 6;' G: ' @ ;: B' 86 :BB' ' F: :' ' >' <>9' 6' G H > ^' >6;' FG:6' 6' B >' 6 ' ? 6> CG' G>;' G: ;' ; ? 6 6' A: ' ? :' G>6' >' :F' H: 9' @:B' >6;' >' :F' G86; :;' ? :B' ' : 9' G:' C 6C: A:;' G:' ?> 6 C:6 ' 6 6' '@ 6; 6 ' 6 ' 6:' G:' ?>6 ;' 6> 6B' 6G>@ 6 ' G:' A>B ' >C ' FG CG' :B' @: F::6' G:' p> B' ? 86 > 6 >6 :' >6;' G:' %:; : >6:>6 ' ;' @9' 6G: >6C:' N>B' F:' ?>9' H :B8?:S' ' >?' G:' C 86 9' 6 : A:6 6 ' @: F::6' G:' ? 86 > 6B' >6;' G:' F: ' B' G:' B '?>;:' G ?B: ' ?>B : ' ' G:' >;J>C:6 ' : 6' ' G> ; :>' ' $>@9 6 >' >@B @ 6 ' B ?:' H 6' 6 ' G B' F6' 6 ; ?' FG :' G:' : ' G: B' ' @:' A: 6:;' @9' @8 > 9' 6 B' ' A C:P 9B4< > : ' FG CG' G:' H C::;:;' 6' G B' C> :: ' ' C 678:B ' 8H' G:' 8HG > :B' >6;' G 8 G' 9 >' 6 ' > :B 6:' 8CC:BB 8 ' G: :' G:' A: 6:;' ' F: ' :' 9:> B' ; ? 6 6B' :D :6; 6 ' 6:> ' >' G 8B>6;' ? :B2 ?' :>B ' ' F:B ' >6;' ?' 6 G' ' B 8 G' H @>@ 9' 6 ' ?8CG' BG ' ' A:' G86; :;' ' B' 8:' G> ' G:' F>B' 6 ' >@ :' ' ' G B' > :' :D :6 ' ' : 94 @8 ' G:' > :?H ' >6;' G:' B8CC:BB' :?H > 9' > :6;P 6 ' ' > :' ?:? >@ :' C C8?B >6C:B' >6;' F: :' H P @>@ 9' 6 ' G: ;' 6' :?:?@ >6C:' G 8 G' 0 :B : 6' B >' FG: :' G:9' B: A:;' >B' >' B ?8 8B' >6;' 6C:6 A:' ' G:' >?@ 6' ' > : ' ? 6> CGB

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G:' C B:' ' G:' B:C 6;' ;96>B 9' >6;' G:' ; F6 >' ' G:' G> ; :>6' ?H :' B::?' ' G>A:' @::6' G:' :B8 ' '>' :>' 6A>B 6' 6' G:' B B' ' G> ;>:>' >9' G:' A>B ' >@ >6' ;:B: ' (' >' >C ' C 6 > 6 6 ' >@ A:' >' ? 6' B78> :' ? :B# (FG CG' ;:BH :' B

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ĥ A: B4' FG :' B ?:' > :' :A:6' :H :B:6 :;' >B' A 6 '
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?:6' G>' ' F>B' @9' C:' ' > ?B' G:' >@ >6B' ?P
H B:;' G: ' 9 :' 8H 6' G:' G> ;B:>6' H: H :' G:'
@ :' B8??> 9' ' $: B8B<' 6> > A:' H :B: A:;' ' 8B'
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2,' a ' ' Q!' 34 C' +>>' + :' ' @?, #2 %#' *##@E' '
C' /2" "B#!' 6 ' ' " !' "A>' @B"A2:%#' 9 !' D2,' ' *##@E'
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;96>B 9'F C 'G: ;' G:' G 6:' ' \j+' 9:> B' G: :' F:;' >' ;96>B 9' '66:' >@' 6 B' FG ' 8:;' '-\j' 9:> B' '>B' F:' C>6' BC> C: 9' B8HH B:' G>' G:' H 8;'>6;' G G BH D< :;' G> ;>:>6B' F 8 ;' G>A:?' B8@? :;' ' >' 9 :' B' :6 : 9' : ' >B' G> # ' >@B' ?8B' G>A:' @::6' F G 8' >' B 8 :' 'B::?B' 6:C:BB> 9' 'H :B8?:' >' C 6 :B' FG: :6' G:' 6> A:' &>? C' >C:' F>B' > >C :;' @9' >' : 6' :? C' B C ' >6;' A: H F: :;' B ?>B' '@:' C:;' ' >CC:H' >' CG>6 :' ' 8:4B' G8B' G:6' G:' G> ; :>6' 6 P ; ?' H: BG:;' 8BG:;' @9' >' >C:' ' >' 6 : ' C A B> 6'FG CG' G>B' :' 6' ? 68?:6 B'>6;'@> : 9' >' >C:' ' B: ' 6' G:' C 86 9^' G:' >6C :6' G> ' ;B:>6B (G:' B C ' ' 8BG' >6;' H: H :' ' ? ; (' B>6 ' >@ 8' $C' "j , ' 6 ' C ?H> > A:' @BC8 9' $9' >@ >6' >6;' BB9 >6' 6 8:6C:' G:9' F: :' >P ;8> 9' :? `:; (>BB ? > :;' G>' B' ' G:' B C ' '6> 6B' ' FG CG' G:' *:FB' G:' 6 G: 6' >@B' G:' >?> >6B' ' 9 >6B' G:' G :6 C >6B'>6;' G:' BB9 >6B' @: 6 ' G: ' >6 8> :' : ' 6 ' ; B8B:' >6;' :F' ' @:' >' :> 6:;' 6 8:' B 8; :;' @9' G:' H :B B' >6;' G:' Y' G: ' 8BG :' CG> >C :' F>B' B ' >6;' G:9' @:C>?:' >B' >' H: H :' BC> C: 9' ; B 6P 8 BG>@ :' ?' G:' BB9 >6B ^' : ' B:A:6' C:6 8P :B' >6;'>' G> ' 'B8@? BB 6' >6;' 6B 6 C>6C:' G:' G> ;B:>6B' G F:A: ' @: >6' ' :A A:' >6;' :C A: ' G:?B: A:B (G:9' :6:F:;' G:' B 8 :' '6> 6>

C A>' 2 ,E' :>, 4' , "G>:"2' F #42L D>:>F!' ?A 4A' A@# G>> ' "A2 D , '" "2' G>,2 M # '' "2' "A>' :@G' 4: 2F!' # '" G: 4O' 2B F' GE' + :' * ' 7>:' 2:">:' @'" E=@:!' @ F' 2?' ' "A>' :" #A' B#>B=' "A>' ,>M> F' 2 ' ?A 4A' N'G>@:# #B4A' =@:O# 2 ' 2: M @, "E' @# =@E' F #" MB #A' '" :2=' "A>' M> >:@,' A@,F@#@ ' #>: >#!' @ F' =@E' "AB#' @L D2B:' "# @"": GB" 2 ' " ' "A>' :@G @ ' FE @#"E!P' + :' ' *@? e#2 ' ' "A>' *##@E' @G2D>' ^B2">F!' 'UUT K %' > 4>' >:2F2"B# @,?@E# :>M@:F# "A>' @GE,2 @ # @# ## ': @ #!' @ F' @GE,2 @' @#' >' F #": 4" 2 ' ##E: @' +>>' ' I J!' IR !' I !' IT !' 34 8' !' T ' @ F' IQQ K

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:C 6 B:;'86;:' G:' :B>6B2^'>6;' :A:6'86;:' G:'
> G>6B2'>B'>' ; B 6C'H: H:' 0 G:6'>' >B' G:9'
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ˢ B :ˢ ˢ G:ˢB:C 6; (ˢ C ˢ BB9 <>6 (? 6> CG9ˢ F>Bˢ G:ˢ 8HH: ˢ H 6ˢ ˢ G:ˢ %:B H >? >6ˢ A> :9ˢ G:ˢ C :Bˢ FG CGˢ B8CC:BB A: 9ˢ ? : ;ˢ Bˢ C>H > Bˢ >9ˢ > ˢ ˢ G: ? ˢ 8H 6ˢ G:ˢ ? ; ; :ˢ B4ˢ >6;2ˢ G:ˢ :> ˢ ˢ G:ˢ C 86 9ˢ F>Bˢ >ˢ ; B C ˢ 6ˢ : G: ˢB ; :ˢ G> ˢ A: ˢ :6C B: ;ˢ F G Gˢ G:ˢ G 9 Gˢ >6;ˢ G 9 B:A:6 Gˢ H> > : Bˢ $9ˢ ; : C:Bˢ G:B:ˢ ? Bˢ F: :ˢ :6 > : ;4ˢ >6;ˢ G:ˢ : ? ˢ BB9 > ˢ C>? :ˢ ˢ @:ˢ 8B: ; ˢ 6ˢ >ˢ B:ˢ >6;ˢ A> 8:ˢ F>9ˢ ˢ>ˢ A>B ˢ >6;ˢ ; : 6: ;ˢ >C ˢ :D :6;P 6 ˢ 6ˢ > ˢ B ; :Bˢ ?ˢ G Bˢ C:6 >ˢ : 6ˢ &: ; 8B< C 6B ; : : ;ˢ G:ˢ FG :ˢ ˢ $>@9 6 >ˢ ˢ G:ˢ >ˢ ? : :ˢ ; B C ˢ ˢ BB9 > ˢ 69Lˢ :C 6: ;ˢ ˢ ˢ > ˢ %:B P H >? >ˢ >@ ^ˢ >A:ˢ ˢ @:B ; :Bˢ G:B:ˢ : 6B

%ˢ >:2Fˢ ˢ I Jˢ IT ˢ ˢ ˢ T - Wˢ : c ˢ 4ˢ 4@,ˢ ˢ . 2?: :ˢ 7ˢ &% # & %ˢ % XX # ˢ A &ˢ D ˢ Jˢ Nˢ >#2L 2"@= @ˢ "2"@ˢ ##E: 2:B=ˢ "ˢ % ˢ +":@G2ˢ #@E#ˢ 8 Nˢ G>ˢ # #E: @ # @F 2 ˢ 2 ˢ >:# @ˢ @ Fˢ +B# @ @ˢ ˢ 2:ˢ GEˢ "A #ˢ @=>ˢ ", >Eˢ 4@,,ˢ @GE,2 @ˢ @ Fˢ @ˢ D@#ˢ ":@4ˢ 2ˢ "G>ˢ #B::2 F # 42B ":E! 4,BF Mˢ "B: @ 6DG 4, ˢ42 L "@ #ˢ >D>AKˢ @ Fˢ 2,,2 @#ˢ @ F

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>' :>' H 6' ' % 86' p> B' N 1:' ? ;: 6' 18 P ; B >6' >6;' > ' 9 >' >B' > ' >B' C >' *8;C:>' >6;' G :6 C >

' :>A 6 ' G:' C 6A:6 6> ' FG CG' B' G8B' A> 8:' >6;' 86B> B >C 9' F:' B:: ' ' 6;' C: > 6' 6> 8 >' ? B' FG CG' F:' ?>9' : > ;' >B' G:' H H: ' @ 86;> :B' ' G:' C 86 9' 6' F ' ; :C 6B' F:' B:: ?' ' H: C: A:' >6' > ? B ' 86 ? B > >@ :' 6:' ' ; : ?> C> 6' 6' G:' :>B ' G:' G G' ? 86 > 6 CG> 6' ' p> B ' H:6:P >@ :' 6 9' 6' 6:' ' F ' H >C:B' ?B' >' @> : ' ' G:' ? B ' ?> : ;' CG> >C : ' >6;' B' @:9 6;' >' ; 8@' G:' 6> 8 >' ? ' ' FG CG' F:' > :' 6 ' 6' G:' B 8 G' >' :BB' B 6 ' @8 ' 6 ' :BB' C :> 9' ;: 6: ; ' 6: (?: ;' @9' G:' >@8 ? ' ' G:' 8HH: ' >6;' B G 9' : :A> : ;' H > 6' 6' G:' > 8A 8 ?' ' G:' F: ' A> :9 (B:H> > :B' BB9 >' ?' $>@9 6 >' FG CG' B' @:B ' : > ; : ;' >B' >' ; B 6C ' C 86 9' 6' G:' F ' : ? > 6 6 ' ; :C 6B ' G: :' B' ? :' ; 8@' >B' ' G:' ? B ' H H: ' ? ' 1 2 GF> ;B ' F:' ? >9' : G: ' A : F' % 86 ' V_ >B 8B' >B' G:' 6> 8 >' @ 86;> 9' ' G:' C 8 B:' ' G:' B' ?' >@: ' ' ' ' :A:6' H: G>HB' :' ? :6 >6' ? 86 > 6 CG> 6' 6 G' ' G B' H 6' ' G:' B ' ?' FG:6C:' G>' A: ' :C: A:B' B' :> 9' @8 > :B 2' 0 :B F> ; ' F:' ? G ' C 6 6:' 2 BB9 >' ' G:' C 86 9' F> : : ;' @9' G:' > 8:6 B' ' G:' B 2' ' :D :6;' ' B ' >B' ' 6C 8 ; :' G:' 1G>@ 8 ' >6;' B' @8 > :B' ' 6> 9' A:6 8 :' ' C> 9' ' >C BB' :' FG :' ' %:B H >? >' >6;' ?> :' ' @N

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N #' #' "A>' F D # 2 ' @F2 "2F' ' ", >' M>2M:@ A 4@,' >##@E!' 42 "@ >F' ' D2, ' ' 2 ' "A>' @B"A2:%#' B $' Q , $K ' "' ?@#' "A2 F "' = 2#'" #B "@G,>' "2' @' M> >:@,' :>D >?' 2 ' "A>' M>2M: @ , E' 2 ' O >#">: ' # @ ' GB'" # ,2#5# @F@ ">F' "2' @' #&7 4 @,' 442 '" 2 ' "A>' > = :>' 2 ' "G>' ##E: @ #

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G:' CG : ' 6> 8 >' ; A B 6' ' G:' C 86 9' B' G>' ?>; :' @9' G:' B' FG CG' G>A 6 ' >' C 8 B:' 6:> 9' ?' 6 G' 'B 8 G'@: F : :6' '>6;' >?> >G'B:H>P > :B' BB9 >' 6 ' >' F:B : 6' >6;' >6' :>B : 6' ; BP C ' ' G:B:' F ' G:' :>B : 6' ' G>' 8H 6' G:' : ' @>6' @' G:' B' > G 8 G' C 6B ; : >@ 9' G:' B?> : G>B' > F>9B' @: :6' G:' ? :' ?H >6' : 6' ?H> > A 9' 6> F' >' B J' ' @ >; :6B' >B' G:' C 8 B:' ' G:' A: ' B' ; :BC:6 ; : ;' ' '> > 6B' >@ 8' G:' G 9 G' H> > :' >' F ; G' ' ". ,' ' "\ ,' ? :B

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N A>‘=2#"‘ = 2:"@ "‘2‘ "A>#>‘ # "A>‘ 7$ 2#:!‘ 2:‘ : D>:‘ !2‘ 72EB O!‘ ?A 4A!‘ : # M‘ :2=‘ ",>‘ ‘ + ‘ A ,,# G>E2 F‘ "A>‘ $4G>,‘ @O,BG!‘ 2:4>#‘ "# ?@E‘ "A:2BMA‘ "A@"‘ :@ M>!‘ @ F‘ @ ">:‘ ?@#A M‘ 7A2:#@G@F!‘ @ F‘ 4:2## M‘"A>‘M:>@"‘ ,@ !‘? F#:2B F‘ "A>‘4 #">: ‘ ,; #>‘2‘ "A>‘ =2B F‘ @"‘ 72EB O!‘ @ F‘ "A> ‘ :B # 2‘ "A>

M: #‘ "‘ # @‘ @ 5G?‘@ F‘ #,BMM #A‘ #":>@=!‘GB"‘ F>> !‘@ F‘2 ,E‘ 2:F@G,>‘ @G2B"‘ 72EB O‘ ‘@‘ >?‘ ,@4>#‘ +>>‘/@E@:F\#c % %C‘ ‘: ‘ !‘ ‘RR‘‘@ F‘4 &@:4‘"A>‘D>?‘2‘"A>‘ :B # 2‘ >D>A!‘ :@!‘ ‘ I‘K ‘/@D@:F!‘ ‘ /%2 ‘(@F‘ ‘ /

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>@ 8ˢ > ˢ . jkˢ "j24ˢ G:ˢ ;G:?ˢ FG CGˢ Bˢ :C: A:;ˢ >ˢ
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9> :Gˢ FG CGˢ 6 Fˢ J 6Bˢ @: Fˢ $> G;>;ˢ @8ˢ ?ˢ
FG CGˢ @ >6CG:Bˢ G>A:ˢ B ?: ?:Bˢ :6 : :;ˢ G:ˢ Bˢ
>ˢ A: 9ˢ :ˢ @: Fˢ G:ˢ ? 8 Jˢ ˢ G:ˢ ;G:?ˢ ˢ
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; B C Bˢ ˢ 18 ; B >6ˢ >6;ˢ 86Bˢ F Gˢ >ˢ :6: >ˢ B 8 GP
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@ >6CGˢ FG CGˢ :>CG:Bˢ ˢ ?ˢ G:ˢ ; B C ˢ ? ? : ; > : 9ˢ
F:Bˢ ˢ ?>; 9:G4 ˢ G:6ˢ FBˢ ;8:ˢ F:Bˢ ˢ >ˢ
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6 Gˢ > :ˢ H>BB 6ˢ >ˢ H >C:ˢ FBˢ 6C:ˢ ? :ˢ 6ˢ >ˢ
B 8 G F:B : 9ˢ ; :C 6ˢ 86 ˢ ˢ :>CG:Bˢ G:ˢ Bˢ
G:ˢ ; :Cˢ ; B >6C:ˢ ?ˢ Bˢ B 8 : :ˢ ˢ Bˢ : ?@ 8CG8 :ˢ
Bˢ >@ 8ˢ +,ˢ ? :B4ˢ @8ˢ G>ˢ ; B >6C:ˢ Bˢ ? :ˢ G>6ˢ
; 8@ :;ˢ @9ˢ Bˢ F 6; 6 Bˢ ˢ Bˢ >ˢ B :>?ˢ ˢ C 6ˢ
B ; : >@ :ˢ B :ˢ @ >;ˢ >6;ˢ >H ;ˢ >ˢ ?>69ˢ B:>B 6Bˢ 6 ˢ
;>@ :ˢ >ˢ > ˢ >6;ˢ > F>9Bˢ ; : ;ˢ F Jˢ ; C8 9 K
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. , >ˢ :ˢ F:B ˢ ˢ G:ˢ F> : BG:;ˢ FG CGˢ ; A ;:Bˢ
G:ˢ @>B 6Bˢ ˢ > :Bˢ >6ˢ >6;ˢ 8? 9:G ˢ Bˢ :6: >ˢ
C 8 B:ˢ ˢ G:ˢ B ˢ "j,ˢ ? :Bˢ Bˢ 0 ˢ> : ˢ FG CGˢ
ˢ -jˢ ˢ .,ˢ ? :Bˢ ˢ 86Bˢ> ? B ˢ ;8:ˢ B 8 Gˢ G 8 Gˢ
G:ˢ C 86 9ˢ ˢ G:ˢ 9> ˢ< :> ˢ ?>; 9:Gˢ ˢ ?> :Bˢ
>ˢ B8; ;:6ˢ 8 6ˢ >6;ˢ FBˢ ˢ ˢ ˢ ˢ Bˢ J86CP
6ˢ F Gˢ G:ˢ F>6; `ˢ @ >6CGˢ ˢ FG:6C:ˢ 6> 9ˢ ˢ
:B8?:Bˢ Bˢ ;ˢ ; :C 6ˢ >6;ˢ 86Bˢ B 8 G A:Bˢ H>B ˢ
G:ˢ ? 8;ˢ 8 6Bˢ 6 ˢ G:ˢ Bˢ Bˢ :6 :ˢ C 8 B:ˢ
:DC 8B A:ˢ ˢ B?> ˢ F 6; 6 Bˢ Bˢ >@ A:ˢ .j,ˢ ? :Bˢ >6;ˢ
ˢ G:B:ˢ 6:> 9ˢ ",,ˢ > :ˢ >C BBˢ G:ˢ H > 6ˢ C 86 9ˢ
FG CGˢ ˢ :6 : Bˢ B 6ˢ > : ˢ :C: A 6 ˢ G:ˢ F>6; `ˢ
B :>?ˢ Uˢ :ˢ G:ˢ 1G>@ 8 ˢ ˢ Bˢ ;>@ :ˢ > ˢ C: > 6ˢ
H >C:Bˢ >6;ˢ ;8 6 ˢ G:ˢ B8??: ˢ B:>B 64 @8ˢ :A:6ˢ
G:6ˢ G:ˢ F> : ˢ :>CG:Bˢ >@ A:ˢ G:ˢ @: :Bˢ ˢ G B:B=ˢ
ˢ Bˢ -,ˢ 9> ;Bˢ F ;:ˢ >ˢ :ˢ >@ A:ˢ Bˢ J86C 6ˢ
F Gˢ G:ˢ ?> 6ˢ B :>?=ˢ 6ˢ >CC 86ˢ ˢ Bˢ B :6 Gˢ
>6;ˢ >H ; 9ˢ G:ˢ >@Bˢ B ?: ?:Bˢ C> ˢ ˢ :ˢ Kˢ %>;ˢ
A: L2#

G:ˢ :BB: ˢ p>@ˢ G>Bˢ Bˢ H 6C >ˢ B 8 C:ˢ 6:> ˢ
C F 6 <>@ 8ˢ F:6 9ˢ ? :Bˢ B 8 Gˢ ˢ > :ˢ 8? 9:G ˢ
6ˢ > ˢ .5kˢ \,2ˢ 6 ˢ \jkˢ -j=ˢ G Bˢ B 8 C:ˢ Bˢ ˢ G:ˢ
:>B ˢ ˢ G:ˢ :> ˢ p> Bˢ CG> 64 >6;ˢ ˢ ? G ˢ G>A:ˢ
@::6ˢ B8HH B:;ˢ G> ˢ G:ˢ A> : Bˢ F 8 ;ˢ 6:C:BB> 9ˢ Fˢ
6 GF> ;ˢ ˢ :>B F> ; ˢ A> ;Bˢ > :ˢ 8? 9:G ˢ ˢ
F> ;Bˢ G:ˢ >BH >6ˢ 8ˢ G:ˢ : F 6ˢ A: ˢ C> :;<ˢ
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' P R' ˢ>" ˢ P!ˢ D2,ˢ a ˢ ˢ I

B' F:B F> ;'>B' ' ;: : ? 6:;' 'H : C:' G:' ? 86P >6' @> : ' > 6 'G F:A: ' ' 6;'>6' H:6 6 ' FG: :' ' ?:: B' G:' >6 : ' G:' :' p>G' 8 6B' B 8 G' >6;' :A:6' B 8 G :>B' > 6 ' B' @>B:' ' >@ 8 ' -j' ' .,' ? :B' ?' B' B 8 C:' ' B8;;:6 9' :B8?:B' B' 6>' ; :C 6' :6 : B' G:' ? 86 > 6B' 6' > ' .5k' -,2'>6;' C:B' B' F>9' G 8 G' G:'68?: 8B' H> > :' >6 :B' F 6 ' :6: > 9' ' G:' ' 0 ' ' ';:P @ 8CG:B' H 6' G:' H > 6' 6:> ' @: >' 6' > ' .5k' ",2' 6 ' \\k' \,2' > :' FG CG' ' 86B' 0 ' >6;' 0 ' @9' ' ' G:' B' B' C 8 B:' >? 6 ' G:' ? 86 > 6B' B' ?' +,' ' X,' ? :B' :DC 8B A:' 'B?>' F 6; 6 B4 >6;' ' 86B' ? :' G>6' ",,' ? :B' G 8 G' G:' H > 6' B' ; 6> 9' F ; G' J8B' >@ A:' B' C 6 8:6C:' F G' G:' B' B' -j' :: ^

G:' 9> : ' FG CG' :B' ? B 9' F G 6' G:' ? B' G>' G>A:' @::6' G: :' >BB 6:;' ' BB9 >' B' ?:;2 @9' G:' C 6 8:6C:' ' F ' H 6C H>' B :>?B' 6 F6' :BH:C A: 9' >B' G:' & F>6'>6;' G:' G F>6' A< ' ' G:B:' G:' G F>6' B::?B' '@:' G:' ?> 6' @ >6CG' G B' B :>?' B:B' ?' G:' ? B' :>B : 6'>6;' G G:B' ' G:' p> B' >6 :B' 6' > ' .\k' \j2' 6 ' \[k' \,2' 6:> 9' ' FB' >' B' F:B '>6;' G:6' 6 G F:B ' H> > :' ' G:' CG> 6' G8' 6' :6 : 6 ' G:' H > 6' ' G>G `8 ' FG: :' @8 > :B' J 6' ' ?' G:' 6 GP :>B' >6;' G:' 6 G F:B ' G:' G J F>6' CG>6 :B' B' C 8 B:' >6;' @: 6B' ' 86' B 8 G' 'F:B '>' ; :C 6' FG CG' 'H8 B8:B' ' ' :6 : B' G:' F' C 86 9'>@ 8' > ' .jk' j2' 6 ' \jk' jj2' 6:>' : ? >?' G:6C:' ' G:' B' G>B' >' C 8 B:' FG CGZ' 6' ; :C ' ; B >6C:' B' "j,' ? :B'>6;' -,,' 'F:' 6C 8;:' 6 9' ?> 6' F 6; 6 B ^

N A># BE!' D2,' ' KK' Q "> @ ' *4A@"@ @!' ' "A>' $' ' ' X' +>4' "A>' = @ ' @""@4A>F' "B' + :' ' (' /B% # @ ' A % P!' D2,' . , @?,A ? %# >=> :' 2 ' "A>' ":2 @5

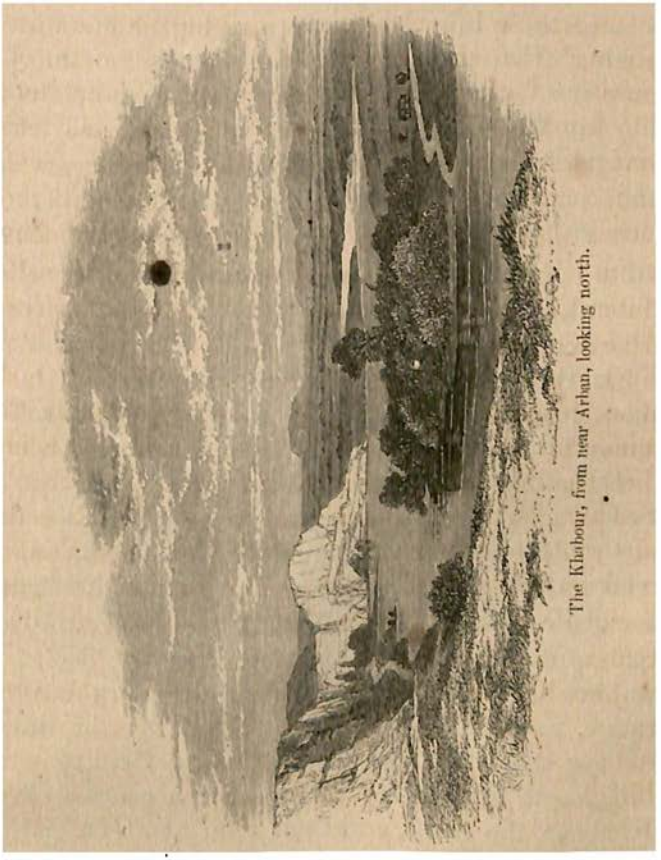
C 6 > 6B' >' ;' ; :>' ' C 9' >6 ;' 4 @8 ' G>B' >@86 ; >6 ' BH 6 B' >6 ;' 6' ? >69' H> B' B' F : ' F ; : ; ' F> ; B' G:' A:B' ' B' > G: ' G 9' G>6' ? 86 > 6 8B4 ' @8 ' F> ; B' G:' :>B ' ' B:B' C 6B ; : >@ 9 ' >6 ;' G:' C 6:' >@ A:' %> ; 6' B'@ G' 9' >6 ;' B 6 #' G:' F> : B' A 6 ' ?' G:' >6 :' C 6B B ' 6' G:' 6 G' ' >' 68 ? @: ' ' B ? > ' @ B' FG CG' > : ' >' BG ' C 8 B:' > ' 6 ' G:' B4' 6' C:' B 8 G' ' B ' ? :' 68 ? : 8B' >6 ;' ? :' C H 8B' B :> ? B' FG CG' > ; 8> 9' 86 :' >6 ;' :A:6 8> 9' ?' F ' > G: ' ? H >6 ' A: B' G:B:' A: B' > :' G:' $: ' 6 F6' >6C :26 9' >B' G:' $:CG> K' >6 ;' G:' 20 :B : 6' 1G>@ 8 ' C> : ;' &>@ ' 6' C H 8 :' >6 ;' @9' G:' C >BB C>' F : B' @ G>B' ' G>@ >B ^

G:' $: ' B:B' > ? 6 ' G:' G B' :>B ' ' >' >@ 8 ' 6 ' . Xk ' > ' . [k' " , 2 B' C 8 B:' B' > ' B ' B ? : FG>' :>B ' ' B 8 G4 @8 ' ' B 6' BF : : HB' 86 ; ' >6 ;' H>BB 6 ' @9' G:' C 9' ' &> >6 (G:' &> >6' ' C H 8 :' >6 ;' G:' C >BB C>' > G>:' < (H C: : ;B' 6 :> 9' ;8 :' B 8 G' ' B' J86C 6 ' >' : F' ? :B' @: F' > >G ' F G' G:' 8HG > :B' ' B' >' B ? > ' B :> ?' G 8 G 8 ' B' FG :' C 8 B: ^' FG CG' ? >9' @:' :C 6 : ;' > ' " , ,' ' "- ,' ? :B

G:' 1 >@ 8 ' B' >' ? 8CG' ? :' C 6B ; : >@ :' A:

", ' >,F>:' > B, : ' +>>' A # 7 ' aP ' # ' # ' , & ' ' QI
+' ! ' ' 5 <1 U K' ' " >' B' # F ' A@: ' '
M> >:@, ' >:" , "E' 2 ' "A>' :>M 2 !' 42=C' ' GB: ,@#' , E' +":@G2' aD ' '
@:>' A # B ' ' & P P !']' RK' @ F' ,%:242 # C ' @ ' ' '
&K ' , !' 2 5' +":@A2%#' ?2:F# @:>' QK'" A@A2:@# . @ = B#K' GE' ,% E'
O F, ' ?> MA>F!' @ F' " #"' =>>'' "A>' aaa ' K!' @ F' " F>=EC' D ' I K'
>@#> p M ' nM ' # ' # # ' n ' "A>:' 2: =@' O' "A ' ? 2:F' @:>' GB:@#
O ' * ' aD ' ']' F , % 2D #!' # F ' A@: ' ' QK!' @ F'
' >, = A:!' K 'P P P ' ' PP !' & ' G2:@' % X W !' f 2# = ' ' I K
+5 5I'' 242>O!' %P7 2 PP' ' P R '" : ' ' ' - U'' ' , %@##'
@ ' & ' AA' ' ' A>#' >E! aaaD ' Q ' +":@G ' aD ' I!']' !' 34
HPPC2 PP#P P 'C # P P PP !' k2, ' ' ' I R P' < : 1 :9' ' '
, , :!' ' -(' $ @D@:F!' -5 -2 ' ' !' U

It collects the waters which flow southward from at least two-thirds of the Mons Masius,[9] and has, besides, an important source, which the Arabs regard



The Khabour, from near Arban, looking north.

as the true "head of the spring,"[1] derived apparently from a spur of the Sinjar range. This stream, which

[9] Ainsworth, *Travels in the Track of the Ten Thousand*, p. 79, note [1].

[1] *Ras el Ain.* (Niebuhr, p. 316; Layard, p. 308; Ainsworth, p. 75.)

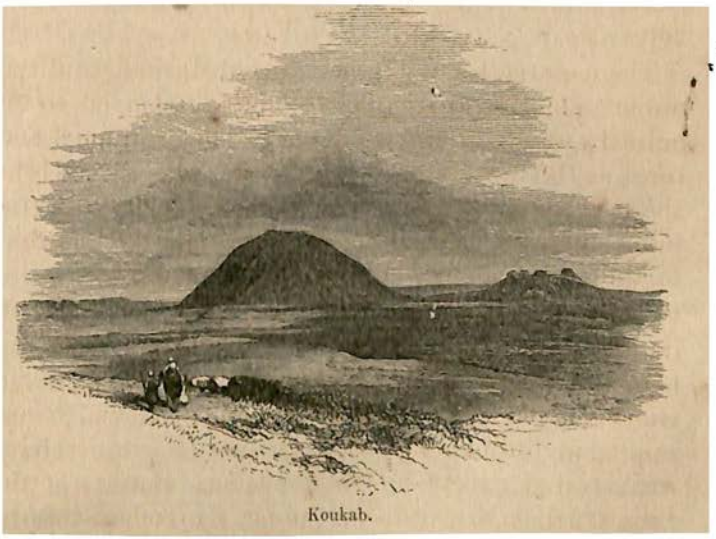
J *' +* ' * ' 6

B:B' >@ 8 ' > ' . K' \ , =' 6 J' \ , =' FB' 6 9' >' :'
B 8 G' ' :>B ' ' B' J86C 6' 6:> ' 1 8 >@' F G' G:'
*: 8J: ' ' A: ' ' B @ B ' A@ CG' C ?J:B' ; F6' ?'
V_ 6B' %>B B' F G' >' C 8 B:' 6 ' ?8CG' F:B ' ' B 8 G'
$ G' ' G:B:' @ >6CG:B' > :' ? : ;' @9' G:' 86 6' ' >'
68?@: ' ' B :>?B' : G: ' ' G:?' B' ;>@ :' '
B ?:' ; B >6C:' >@ A:' G: ' J86C 64' >6;' @: F' '
G:9' C 6B 8 :' >' A: ' ' B8CG' ?> 6 8; :' >B' ' @:'
6>A >@ :' ' >' C 6B ; : >@ :' ; B >6C:' @9' B :>?: B <'
G:' C 8 B:' ' G:' 1G>@ 8 ' @: F' 1 8 >@' B' P
8 8B4#' @8 ' B' :6: > ' ; :C 6' B' 0 ' @:'
:6 :' :6 G' ' G:' B :>?' B' C: > 8 J 6 ' :BB' G>6'
-, , ' ? :B

G:' C 86 9' @: F : :6' G:' K' % 6B' %>B 8B' L' >6;' G:'
6J> ' >6 :' B' >6' 86 ; 8 > 6 ' H > 6 ' ?' 5, ' ' [, '
? :B' 6' F ; G ' > ? B ' >B' ; :A ;' ' : >HG C> ' :>P
8 :B' >B' G:' > 8A 8 ?' ' $>@9 6 > ' ?' >' G: G '
G:' FG :' >HH:> B' ' @:' >' ; :>;' :A: 4'#' @8 ' G:' >P
A: : ' 6;B ' 6' ; :BC:6; 6 ' G> ' G:' B8 >C: ' :' G> '
' G:' ? : C>6' H > :B' >6;' G:' ? >6' >?H> 6> '
<:> 9' B:B' >6;' > B' 6' >' ?>66: ' FG CG' : B' >'
; :C ; : ;' C 6 >B ' ' G:' > 8A > ' > B' 6:> : ' G:' B:> '
:> ' H 6B' ' G:' >C ' > :' A: 9' ; : C :6 ' 6'
F> : ' 6 9' B ?> ' B :>?B' ; :BC:6;' ?' G:' 6J> '
>6 :' >6;' G:B:' > :' B 6' >@B @: ;' @9' G:' G B 9'
B 4' B ' G> ' :DC:H ' 6' G:' ? ? : ; > :' A C 6 9' ' @:'
G B' 6 G' >6;' B 8 G ' >6;' > 6 ' G:' C 8 B:B' ' G:'
1G>@ 8 ' G:' $: ' >6;' G: ' > 8:6 B ' G: :' B' :'
6> 8 > ' :< 9 ' >6;' C8 A> 6' B' ; C8 ' G:'
B ' ' B' :6' 9HB : 8B4' >6;' B' B> ' >6;' 6 8B'
:D8;> 6B' ; :B 9' A: : > 6' 4'K' FG :' > ' G:' B>?:

N #?2 ", !' I' # ' 4 ' II =, ' & ' QI '
F!1 -' 2- ' □ - IIKI I' (' U

time the streams and springs are from the same cause for the most part brackish and unpalatable.[6] Volcanic action probably did not cease in the region very much, if at all, before the historical period. Fragments of basalt in many places strew the plain; and near the confluence of the two chief branches of the Khabour, not only are old craters of volcanoes distinctly visible, but a cone still rises from the centre of one, precisely like the cones in the craters of Etna and Vesuvius, composed entirely of loose lava, scoriæ, and ashes, and rising to the height of 300 feet.



Koukab.

The name of this remarkable hill, which is Koukab, is even thought to imply, that the volcano may have been active within the time to which the traditions of the country extend.[7]

[6] Layard, pp. 242, 325.

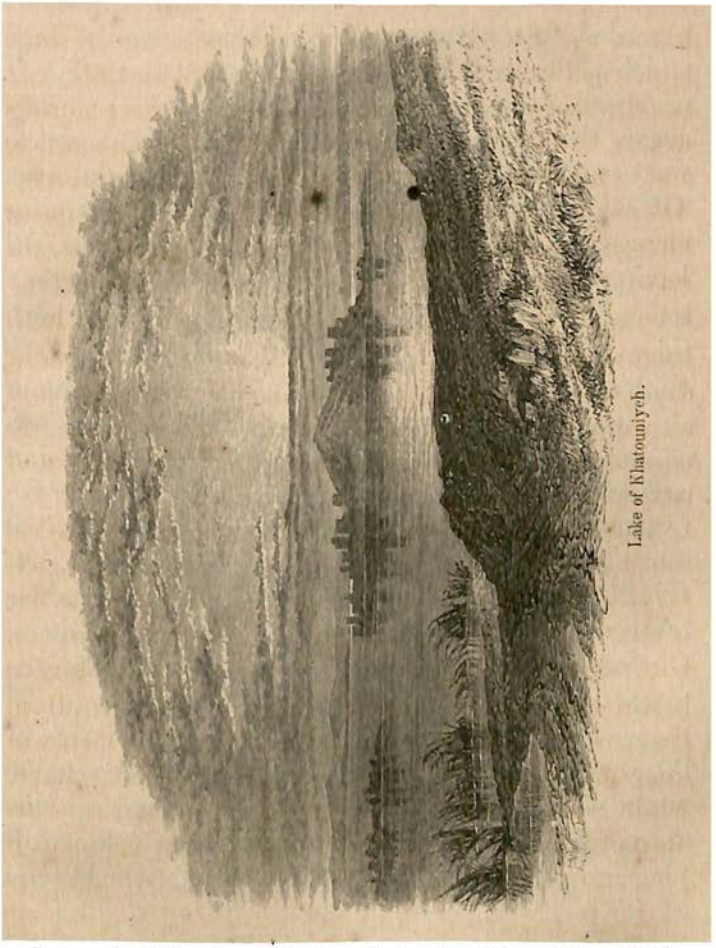
[7] Ibid. p. 308. *Koukab* is said to signify "a jet of fire or flame."

G:: B F> : > :B > H 6 B : 6 G> G: B?> > :
<1G> 66 9:G B:: ?B ;:B: A: :BH:C > ;:BC H 6
G B > : B B 8> :; 6:> G: H 6 FG: : G: 6J> CG>6 :B B CG> >C : >6; ?
> G G C 9 >6 : B8@B ;:B 6 F @ :6 G B
B @ 6 BG>H: F G B :> : >D B H 6 6 6:> 9 ;8: :>B >6; F:B 6 :6 G >@ 8 8 ? :B
>6; 6 B :> :B @ :>; G B ?:FG> :BB G>6 G :: ^
G:@>6 B > : F >6; 6 H> ?> BG9 ? :: BH:C P
> 9 6 G: B ; : F> ; B G: 1G>@ 8 FG CG B 6
? : G>6 :6 ? :B ; B >6 ^ 6 G: ? ; ; : G:
> : B > G 9 H:6 6B8 > J 6:; G: ?> 6 >6; @9 >
6> F C>8B:F>9 >6; @:9 6; > B?> B >6;
C A: :; F G ::B G: > : >@ 86;B F G BG >6;
F> : F 4 >6; B F> : G 8 G @ >C BG B :P
> ; :; >B :?> >@ 9 FG :B ?: @ G ?>6 >6;
@:>B

G: I 6J> >6 : FG CG ; A ;:B 0 :B : 6 BB9 >
6 F H > 6B > 6 G: 6 >6; > B 8 G: 6 B > B P
> 9 ?:B 6: ; : B 6 8H >@ 8H 9 ?: G: >
C 86 9 F; CG C ? ?>6;B > A>B ; B >6C: 6
@ G B ;:B G: ?:B 6: FG CG B C ?H B: ;
B FG : B >6; BB : 8B4 ;: >CG:B B: 6
:6 ? 8B > :B ?: G: ? 86 > 6 B ;:B FG CG > :
B ?: ?:B @ :6 6 > B8CC:BB 6 >6 C B :HB
FG : CC>B 6> 9 G:9 H :B:6 G: C 8?6> >HH:> P
>6C: @>B> Z G: >6 B G: 6J> > :B:>?:;

X +>> QI / @E@:F# B @ # @" "A> @:F! I # 4K $#A @ # K:2G@G,E "A>
>" F 2 A # ; " ! " " & " 2, ! 2: @", 2 #2=> ?: ">:#!
)2: @ M> >:@, F>#4: " 2 2 "A> ,@O>! ?A 4A # :4 :4#> ">F @# @ ": GB"@:E
42= @:> "A> #@=> ?2:O! m U! 2 "A> 7A@A2B: +>> A># >E!
? "A >ABA:# 3 5 : # : 4 ! 6 #" D2, Q "
I K # " # & %& D2,
% ,2 # ?@= I 4@,,>F "A> 2 ! 6 &K U ! % K
>a"> F# :2= "A> ,@O> "2 ? "A @ * @E@:F!
#, 2:" F #" @ 2S 2 "A> 7 A@,a ": A@E5 :(<

with innumerable ravines, and from these small brooks issue, which are soon dispersed by irrigation,



Lake of Khatounlyeh.

or absorbed in the thirsty plains.[2] The sides of the mountain are capable of being cultivated by means

[2] Layard, *Nineveh and Babylon*, p. 256. Compare *Nineveh and its Remains*, vol. i. p. 315, note.

6:> 9'>6;' 86B' F> ;B ' G:' 6 G 9:B 'H> > :' ' G:' C 8 B:' X' G:' 8HH: ' 1G>@ 8 ' FG CG' B:B' ?' B' >6 '>' >B : 6< G:' 6>?:' ' @; : >` `' B' >HH :;' ' G B' BH8 '>B' F: '>B' ' G:' C 6 68> 6' ' G:' 6J> ' @: F::6' <@>6';' &> :@ ' ' B' @ :6' 6 ' 668?: >@ :' A> :9B' >6;' >A 6:B ^' >@ 86; 6 ' F G' F ;'>6 ?> B'>6;' B' BC>6 9' F ;:;' F G' ;F> ' > ' :>?B' 'F> : '>@ 86;' 6'

8 G' ' G:' 6J>' >6 :' G:' C 86 9' :B8?:B' G:' B>?:' :A:' >HH:> >6C:' FG CG' CG> >C : B:B' ' @:P F::6' G:' 6J>'>6;' G:'% 6B'%>B 8B' ' F' ?:P B 6:' ; :' B B' G:' B' A> :9' ?'% B8' ' : ^'>6;'6:>' G:' 8HG > :B' G:' C 86 9' B' B ?:P ?:B' B G 9' G 9@8 ' :6: > 9' G:' :9:' >A: B' A: ' >' A>B' B G 9' 86;8 > 6 ' :A: ' 86@ :6' @9' :? 6:6C:B'>6;' B8HH 6 '@8 ' >' BC>6 9' A: : > 6' G:';:BC H 6' '/:6 HG 6'>' :':D> : > :B' G:' > 6:BB'@8' B' G: F B:' > G 8':6 8 G4(K' 6' G:B:' H> B' G:' C 86 9' F>B' >' H > 6' G 8 G 8 '>B' B? G' >B' G:' B:>'>6;' 8 ' 'F ?F ;'4 '>69' G: 'BG 8@' ' ::;' :F' G: :' 'G>;' >' BF::' > ?> C' B?: 4 @8' G: :' F>B' 6 '>' ::' 6' G:' FG :' : 6L^ 0>:' B' B ' ? :' BC> C:' G>6' 6' G:' H > 6B' 6 G' ' G:' 6J>' G:' @ B' ;:BC:6; 6 ' ?' G>' >6 :' > :' B' F:>' G>' G:9' :6: > 9' B:' G:?P B: A:B' 6' G:' H > 6'@: :' G:9' G>A:' 86' ?>69' ? :B' 6' 6:' C>B:' 6 9' ; ' G:9' B::?' B8 C :6 9' B 6 '

R A>#4 !' # ' # ! GF5>,5@b b!' @442:F M' "2<"A>' #@=>'
^ 'UT @B"A2:' G F' 'I Q K
N /@E@:F!' A ' ' : ' !!' C .> ' &' 'Q!']' I' 09 ' ' '
' I ':[' 2 ' ' 'K'
H' G F' ' U !' UI f# @I ' I% #: * !F " F"2B' '
' A>#>E!' # ' # !' c # 7 ' 8' '"@" F..2 D' c ' "'
'Q !' Q ' A>'A ,,#' '"A #':>M 2 ' * c0# !' " ' ' 0 (!' DD $ #
@:>' 2 ' 4A@,O' 2:=@" 2 !' @#' #' "A>' O#O# ' 8 # ' M ' &
- / '

?' >' A: ' G:' G> G> ' FG CG' FB' @9' G:' 8 6B' ' ' &>;G ' B' >' G>' H >C:' >' C 6B ;: >@ :' B :>?' 6 ' 6;::;' A: 9' F ;:' @8' B' ;::H' G>' G B:B' G>A:' ' BF ?' >C BB' ' B' C 8 B:' >@ A:' ' &>;G ' G>B' 6 ' @::6' >C:;' 4 @8' G ' ? B' H @>@ :' C 6P J:C 8 :' B::?B' ' @:' G>' ' B' >' C 6 68> 6' ' G:' 6J>' A: ' FG CG' B:B' >@ 8' G:' ? ;: :' ' G:' >6 :' 6' 6 ' \"K' j,2' >6;' F ' B 8 G :>B' G 8 G' G:' ;:B: ' G:' G> G>' >HH:> B' >' 6:' ?:' ' G>A:' :>CG:;' G:' B' 6:>' : ' @8' <6 F' :6;B' 6' >' ?> BG' ' > :' ' G:' B 8 G F:B' ' G>' C 9 ^

G:' H C>' : >HG9' ' BB9 >' 6::;' 6 ' CP C8H9' ?8CG' ' 8 '> :6 6' G: :' B' 6 ' 6> A:' :A P ;:6C:' G>' 6' G:' ?:' ' G:' :>' ? > CG9' G:' C 86 9' F>B' ?> 9' ; A ;:;' 6 ' ; B C B' ' FG CG' >69' H> C8 > ' 6>?:B' F: :' > >CG:; ' ' FG CG' F: :' : > ;:;' >B' H C> 9' B:H> > :' ?' 6:' >6C G: 4 ' 6 ' ; ' B8CG' ; A B ;B' >HH:> ' 6' G:' C >BB C>' F : B' 86 ' G:' ?:' ' G:' > : ' : >HG: B' >@ ' P 69B 8B' >6;' :?9' ' ' F: :' 6 ' G>' ?:6 6' B' ?>;:' 6' G:' ;' :B >?:6' 'C: > 6' ; B C B' F G 6' G:' : 6' FG CG' G>B' @::6' G: :' : ?:;' BB9 >' F:' BG 8 ;' G>A:' 6 ' H ' G>' 6' G:' :> 9' ?:B' >69' ; A B 6B' >' > ' G>;' @::6' :C 6 `:;' G:' 6>?:B' G F:A: ' ' >;>6 >?' >? >G> > ?' `>6' &> >G' >6;' NH: G>HBS' &8``>@' ;:B 6> :' 6' C H 8 :' H> C8 > ' H 6B' ' G:' BB9 >6' : 94 6;' >B' G:B:' H 6B' >HH:> ' ' C :BH 6;' 6' B ?:' ;: ::' F G' G:' ; A B 6B' ' G:' C >BB C>' : >HG: B' F:' > :' :;' ' B8BH:C ' G>' G:B:' F : B' ?>9' 6' ?>69' ' 6 ' 6' ? B ' C>B:B' G>A:' F:;' >6C :6 ' >6;' 6> A:

>; 6B >8 G :B ' G:' H 6C H>' ; A B 6B ' G:' C >BB C>' : >HG: B F ' G: : :' @:' 6 C:;' @ : 9 ' B ' > > ' :>B ' >B G:9 > :' 6 : @ : CC ; 6 ' ' >@ ^' G:' ; B C ' F G 6 FG CG 6:A:G B ;' F>B C> : ;' 8 >' FG CG B: : ?B ' @:' G:' F ;' BB9 >' B G 9 C 8H : ;' >B F:' 6 F U G>' ' G>@ 8> 9 F>B @9 G:' : B >6B < G:' 6: GP @ 8 6 ' H > 6 C 86 9 G:' ; A ; :B 6 ' 8 ' : 6B (' U ?:6:' > >CG:6o' G>`:6o' >6;' ; >@:6o' ' ?:6o' FG CG >@ ' ?:6 6B @8 ' 6 6:' H >C:' >6;' FG CG B#FG 9 ? :;' @9 G: ' >8 G B ' 6 ' >CC 86 ' C>6 @:' A:6 ^' > >CG:6o' FG CG B H: G>HB G:' > >C 6:' ' :?9 ^' ?8B ' @:' G:' >C ' >@ 8 ' > >G N ? 8;S' ' G:' C 86 9 ? ? : ; > : 9 6 G ' G:' HH: ' p>@ A: ' G>`:6o' :' ?:6o' B >' : ?' FG CG C>66 ' @:' :DH > 6 : ; < ; >@:6o' 6 G:' C 6 > 9 ' B >' F: 6 F6 : >HG C>' :DH :B ' + 2 ' B Go C 86 9 ' G:' p>@ ' M ' A: B ^

H +":@G ' aD ' I]' I ' A>' 2:=' "B: @' /M # (# B#>F' , O>? #>' GE' :: @ ' /o #& & ' RK!' @ F' GE' +"> A> ' @F' D24' 2 K' 2' @## B# ?: ">#' "E: @' % D "@K! @ F' @##>:"#' "A@"' "A>' ' ?@#' @,?@E#' B#>F' 2:' "A>' #' N'GE' "A>' G@:G@: @ #'P' D ' K ' "' ?@#' 4>:L "@ ,E' #2' B#>F' GE' "A>' >:# @ #' #>>' "A>' : ' B % # ! @## =K!' GB"' "A>' ##E: @ #' "A>=#>,D>#!' , O>' "A>' $>?#' @ F' "A>' 1:>>O#!' #>>=' "2' A@D>5'>= ,2E>F' "A>' #

N 2,2=> F' #' M> 2B#,E' 42 L >4">F' GE' 2 #' ' q,,>:' ? "A' "A>' 2,G@' 2 ' :: @ '):' II ' +>>' "A>' NaK $ &9 & &D2,' ' ' J K' "' #' 4,>@:' "A@"' "A>' >"A 4' *e ' +"> A' Eb ' @F' D24 K' ?2B,F' >@# ,E' @##' "2' 2.2 D ' 2,G@!' @442:F M' "2' :: @ !' ?@#' @' 4 "E' ' F @G> >

C "2,' D ' I ' #' "2,>=E!' A2?L >D>:!' ,@4>#' @,@4 F' ' F @5' , > F!' A>' =@E' 2## G,E' ">F' "' 2: A@,2 "#

C A@b> F' ?@#' F>>F' => " 2 >F' G '' :: @ ' ' A #' 9 % .' @ F' ' ?>' 2##>##>F' "A@"' ?2:O!' ?>' #A2B,F' :2G@G,E' 2"' F' = B4A' F 4B,"E' ' ,24@" M' " ' B"' "A>' :@M=> "' ' +"> A> ' @F' D24' .@ XD K' ">,,#' B# 2"A M' 2 ' "#' >a@4"' 2# " 2 ' +"> L A> ' A =#>, ' # 4,>@:,E' O:2 M' ' ,@4 M' "' 2 ' "A>' # & :: @ ' :2G@G,E' 4,BF>F' "' ' "A>' ">:: "2:E' 2 ' 2,G@!' ?A 4A' ?@#' ? "A' A =' @' @:"' 2 ' F @A> o ' +>>@G2D>!' 2">C' @ F' 42= @:>' "A>' :@M=> "' 2 ' :L : @ ' C*D ' :E' % .X HT' ,>M ' - NKST 2.X+@ @K @' ' : + @: #' c , ' # ? "' >-" # * ' E 5 %

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C +2' = = @ B#' >a ,@ #' "A2

' -

>6;' : G: ' 6C 8;:B' G:' FG :' ' >B : >' BB9 >' @:P F::6' G:' ? 86 > 6B' >6;' G:' B=' ' ? :'B C 9' B' >HH :;' ' G:' : 6' @: F::6' G:' HH: ' >6;' F: ' p>@=' FG CG' C 6B B B' ' F ' > :' H > 6B' B:H>P > :;' ?' :>CG' G: '@9' G:' 1> >CG 'G B' 6' G B' F>9' @: B' G:' H>6 '@: F::6' G:' 1> >CG ' >6;' p> B' F 8 ;' > ' F G 6' ; >@:6:4' G8' ' B' B ?:P ?:B' ?>;:'>'; B 6C' : 6 ^' 6' FG CG' C>B:' ; >@:6:' ?8B' @:' :B C :;' ' G:' >'@: F::6' G:' F ' p>@B' G:' B' >6;' G:' 1> >CG ' G> 6 B' >6;' H ' 6 > B' FG CG' >@ ' B::?B' ' H >C:' @: F::6' G:B:' 6 G: 6' H > 6B' >6;' 8B >6>'< ?8B' @:' : > ;:;' >B' ; A ; 6 ' @: F::6' G:?' G:' C 86 9' B 8 G' ' G:' :BB: ' p>G' H 6 > B' IMB' C> :;' ?' B' :: ' C>H > ' H 6 >S' ;9 6 ' > 6 ' G:' B' >6;' G>P 6 B' > 6 ' G:' ? 86 > 6B' ?' G:' H>BB' ' : @:6;' ' >6 ^' G> 6 B' B::?B' 'G>A:' > :6' B' 6>?:' ?' >' C>H >' C 9' C> :;' G>> ^' FG CG' >9' 6' G:' :>' 8 :' C 66:C 6 ' $>@9 6' F G' G:' B 8 G: 6' C@> >6>' >6;' 6' > : ' ?:B' F>B' 6 F6' >B' & F>6 2

@=>' p'N' 2# @B">=' F' F 4 = #!' ^B2F' ' A # ">: # @= >#' #B '" FB2' >: >"B ! ^B2# >'" ":@ # D =B#!' @5 G@# >'" F @G@#!' B 4"' @D@, GB# 2 " GB# '" F>2^B>' ">,, M' F @G>5 @=' 2M 2= @"@=!' B'" @' ,B= 5 GB# =@a = # +ME "B#!' >'" F @!' " F>=^B>' G>: @' >'" >" 4@ P' aa ' J

K , E' #>>=# "2' M D>' "2' F @:' G> F' ", # >a'> F>F' # M 4@" 2 !' ?A> ' A>' #@E#! p N' F @G> > ' M: #' >'" = 2 " B=' # B# 4 MB "' '" ,@8D ' > B# :>M 2' >F2:B=' >#" P' /,9!' A' D ' T'' 42= @:>' 4A ' D ' J K

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C # GE' "2,>=E' / # ' D ' IK

' +":@G' . -' !']' I ' '' aD ' I!']' I

C ' >' ": " 2 ' 2 ' G@,2 "# # :>""E' >a@4",E' F 4@">F' GE' +":@G2! 2,EG B#!' @ F' # F2:>' 2 ' A@:@a' +":@G2' 4@,,# '" #' ' = '# ' # ' . @ . BD": D' aD ' I !']' IK' 2,EL G B# 42^ >2"# '" ? "A' "A>' #@=>' =2B "@ ' :@ M>' D ' QU!']' RK' # F2:>' F #" 4",E' ,@4># '" G>"?>> ' 2,,2L @" # @ F' >F @' ;) ' < ' ' QK' +>>' @,#2 2 E#' >: >M' ' I IQ!' @ F' , ' 9' A' D ' R

C # F ') ' + ' '# '4 ' @4 L "B#' :2G@G,E' "> F# "A>' #@=>' 4 "E' GE' G # N @,B#P' ; ' D ' UIK!' ?A 4A' A>' 42B ,># ? "A' :">= "@' '" F2># 2'" @ a@:' "2' A@D>' G>> ' F> " 4@,' > "G :' ? "A' "A>' @,@A' 2 ' "A>' 22O 2 ' 7 M#!' 2:' ? "A' "A>' @,@A' 2 ' 1> >#

' A>' :B # 2 ' 2,?@ ' ?>:>' D L # ">F' GE' + :' ' *@?, #2 ' ' "A>' E>@:' I J ')2:' @ ' @442B '" 2 '"A>=!' @ F' 2:' @' 2" 4>' 2 ' "A>' = 2:"@ 4>

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:H :B:6 ' G:' FG :' ' G:' 8HH: ' C 86 9' ?' FG CG'
G:' 6 : ' > 8:6 B' ' G:' 1G>@ 8 ' BH 6 4' FG :'
&> >G ' FG CG' B' C 8H : ;' F G' ' 6' C H 8 : ^' >6 ;'
FG CG' : ? 9' C> B' G> C B ' >6 ;' ?> :B' @ ; : ' 6'
>8`>6 B ' ? >9' ; :B 6> :' G:' >C ' 8H 6' G:' ?> 6'
B :>? ' >B' ' C ? :B' ; F6' ?' >B : 6 #' G:'
: 6' >@ 8 ' G:' 8HH: ' B 8 C:B' ' G:' $: ' G>B' 6 '
BH:C > ' ; :B 6> 6' 6' >@ ' @8 ' 6' C H 8 :' '
B: : ? B' ' @:' C> : ;' >;>6 >? ^' >' 6> ? :' FG CG' G>B'
@: :6' F: ' :DH > 6: ;' >B' K G:' > ' 9 > L' ' K G:'
C 86 9' B : CG 6 ' 8 ' ?' G:' ' ' G:' G B L' ^
6' G:' > : ' ?>6' ? :B' ' F>B' 6 F6' >B' B G :6:'
@8 ' G B' 6>? :' F>B' BC> C: 9' 6' 8B:' @: :' G:' ? :' '
G:' 6 6 6:B

G:' 8:' G:> ' ' BB9 >' F>B' G:' C 86 9' C B:'
> 6 ' G:' B ' ?' > ' . jK' ' .5K' . ,2 ' 0 G 6'
G:B:' ? B' F: :' G:' 8 " :> ' C :B ' ?> : ;' @9' G:'
? 86;B' > ' 1G B>@>; ' % B8 ' ? 8; ' >6;' 1 :G '
G: G> ' @:B ; :B' >' ?8 8; :' ' H >C:B' ' 6 : '
C 6B:78:6C: ' ' G>B' @: :6' :6: > 9' B8HH B: ;' G>

GB" B 2 ' "A@"!' 42=G >F' ? "A' "A>'
=> " 2 ' 2 ' "A>' @G2:' 2:' 7A@G2B:K'
@# "A>' : D>:' 2 ' 12b@ ! @ F' "A>' =L
, >F' D 4 "E' 2 ' 12b@ ' "2' @:@ '
@: :@ K' @ F' @,@A' A@,4 " #K
Ć +>>' "A>' @:" 4,>' 2 ' N' 12b@ ' P' '
+= "A#' : % ' G % '!' D2 ' '
' R J ' A>' " @,' $! K' ' "A>'
?2:F' EMF2 @' #' :2G@G,E' @' =>:>'
@F >4" D@,'25 @:" 4 @,' :> a' ' ?A ,>'
"A>' ' :> :>#> "# "A>' +>= " 4' b' "K!'
@442:F M' "2' @ ' 2:F @:E' A2 >" 4'
D@: @" 2
N ' 7 M# aD ' J ' aD ' I I' ' !'
A:2 ' D ' J
K' >' 2 ' "A>' =2B F# 2 ' "A #
#":>@=' # #" ,,' 4@,,>F' 1,@!' 2:' 7@,@A!'
GE' "A>' :@G#' +>>' / @E@:F#' A

' ' : ' !' ' I !' 2"> K
<' 1> ' &&. ' " aaD ' 5R!' 34'
A>' @=>' # 2 ,E' B#>F' ' 1> >#' #
%' +"@ ,>E!' " ' ' + !'
' I !' 2">'%' " # 4B: 2B#!' A2?L
>D>:!' "A@" G2"A' + & 3 & @ F'
$ A $' :>4@,,' "A>' @=>#' 2 '
@" 2 # A@G " M' "A>#>' @:"# '
"A>' ##E: @' " =>#' A>' 4A > ' L
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" 2 >F' GE' "A>5' >@:,E' ##E: @ ' O M#'
@:>' "A>' A :' @ F' @4:2## "A>' * BL
A:@">#!' "2?@:F# ,> 2!' "A>:>' # @
": G>' 4@,,>F' "A>' + & :2G@G,E!'
A2?>D>:!' G2"A' 42 4 F> 4>#' @:>' @44 L
F> "@,
M' 2' @##' a, ' IT' ' aD ' I !' 34'
:: @ !') : ' ' ' 4:2F @A!' 'T!' 34

perhaps more frequent on the opposite side of the Tigris; at any rate they are more striking and more important. Bavian, Khorsabad, Shereef-Khan, Nebbi-Yunus, Koyunjik, and Nimrud, which have furnished by far the most valuable and interesting of the Assyrian monuments, all lie east of the Tigris; while on the west two places only have yielded relics worthy to be compared with these, Arban and Kileh-Sherghat.

Colossal lion, near Seruj.

It is curious that in Assyria, as in early Chaldæa, there is a special pre-eminence of *four* cities. An indication of this might seem to be contained in Genesis, where Asshur is said to have "builded Nineveh, and the city Rehoboth, and Calah, and Resen;"[6] but on the whole it is more probable that we have here a mistranslation (which is corrected for us in the margin[7]), and that three cities only are ascribed by Moses to the great patriarch. In the flourishing period of the empire, however, we actually find four capitals, of which the native names seem to have been Ninua, Calah, Asshur, and Bit-Sargina, or Dur-Sargina (the city of Sargon)—all places of first-rate consequence. Besides these principal cities, which were the sole seats of government, Assyria contained a vast number of large towns, few

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[6] Gen. x. 11, 12.

[7] In the margin we have רְחֹבֹת עִיר translated "the streets of the city," which is far better than the textual rendering. Had *r'hoboth* been the name of a place, the term *'ir* would scarcely have been added.

' FG CG' B' H BB @ : ' 6>?:' @8' B' 68?: 8B' G>' G:9' C A:' G:' FG :' >C:' ' G:' C 86 9' F G' G: ' 86B ^' ? 6 ' :?' F: :' > G B>' @ '>6;' 1G>`:G' 6' G:' >C'@: F::6' G:' B' >6;' % 86' p> B4' &> >6' : H6' >6;' ? ;>' F> ;B' G:' 6 G F:B' 6 : 4' ' N C:B 8?S' >' G:' C 6P 8:6C:' ' G:' 1G>@ 8' F G' G:' 8HG > :B4' 6>' 6' G:' 8HG > :B' B ?:' F>9' @: F' G B' J86C 64 >G ' %> > B ' G>; 66' 1> 6 ' $: G 1G> 8H ' cC ' 6' G:' ; B C' B 8 G' ' G:' 6J>' @: F::6' G:' F:' C 8 B:' ' G:' 1G>@ 8' >6;' G:' B' &: :' > > 6' >B' 6' G:' C>B:' ' G> ; :> I' ' B' ?H BP B @ :' >' H :B:6' ' C>:' F G' >CC8 >C9' > ' G:' C :B' 0 :' ?8B' 6C:' ? :' 7 6 6:' 8 B: A:B' ' G:' ? B' ?H >6' >6;' B:: ' ' ;: : ? 6:' : G: ' >@B 8 : 9' ' F G' >' C: > 6' A> 8:6:BB' G: ' B:A: >' H B 6B

' >; ? B' ' 6 ' :>B 6>@ :' ; 8@' G>' G:' 8 6B' HH B :' % B8' > :' G B:' ' 6:A:G' G:' 6>?:' ' 6:A:G' B' :>;' ' G:' @ C B4 >6;' >' 86 ?' >; P 6' :>CG 6 ' ?' G:' >@' C 678:B' ' C ?H> >P A: 9' :C:6' ?:B Y > >CG:B' ' G:' ? 86;B' G:? f' B: A:B' G:' B>?:' : ' G:9' > :' G:' ? B' :D :6B A:' 8 6B' 6' BB9 >4' >6;' G: ' : >HG C>' H B 6' B8 B' H: :C 9' > ' G:' 6 C:B' ' G:' : >HG: B' >6;' G B >6B' F G' :BH:C' ' G:' :>' BB9 >6' C>H > ^

N /@E@:F!' A ' ' ' J $!' D2,' ' ' IU'H A ' ' ' UQ!' UJ!' I !' I !' I % " C ' ' %' " % '!' D2,' . -' ' !' U ' +>>' @G2D>!' (@M> Ć A>' >@:,E' :@G @ ' M>2M:@ A>:# @ F' A #"2: @ # => " 2 >F' "A>' 2:"# 2 'A '"2' "A>' >@#" @ F' 2 ' 2# F "2' "A>' ?>#" 2 '"A>' M: #' / &' " %&

$ &' D2,' a ' ' UI !' 2">' C K' 2' :2D>' "A>' 42 " B "E' 2 ' "A>' ":@F L " 2 !' '" ?2B,F' G>' >4>##@:E' "2' ^B2">' @,,' ":@D>,,>:#!' :2=' > @= ' 2 ' BF>,@' "2' : ' / @E@:F!' ?A2' F # B">#' "# D@,B>!' GB" F2>#' 2" F> E' " < +>>' >:2F!', ' IT ' ' +":@G ' aD ' I!']' ' ' "2,' 6 ' I' ' %, ' D ' I !']' IJ" = , ' @:4!' aD ' R'' B#5' "@"A ' @F' 2 E#' >: >M' TI

B' >' B8@B:78:6 ' CG>H : ' F ' @:' ; : A : ;' ' >' ; : BC HP
6' ' G B' >? 8B' C 9=' ' B' :6 8 G' 6' G B' H >C:' '
@B: A:' G>' ' F>B' B 8> : ;' 6' G:' : ' ' :>B ' @>6 '
' G:' B ' 6' > ' .5K' -"2' > ' G:' H 6 ' FG: :' >'
C 6B ; : >@ :' @ ' G:' 1G B B8 ' > B' 6 ' G:' ?> 6'
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>H ;' B ' G:' K' > F B :>? L' >B' F:' ? >9' >6BP
> :' G:' F ; 4# FG :' 6 G' :>B ' >6;' B 8 G' :DP
H>6; : ;' G:' A>B ' 86 ; 8 > 6 ' H > 6' FG CG' 6 : A:6:B'
@: F: : 6' G:' A: ' >6;' G:' p> B' ? ? ? > 6 >6 : '
% ; F>9' 6' G B' H > 6 ' > ' G:' ; B >6C:' ' ?' : :6'
' : G : :6' ? :B' ?' G:' C 9 ' B ;' @ ; 9' 8H' G:'
*:@: ' %> 8G' >6;' 6 B8 >' * B ' C> C> : 8B' ; :B'
B 6 ' 6:> 9' - , , ;' : : 2' >@ A:' G:' :A: ' ' G:' B ' h
>6;' ? 6 ' @9' > ' G:' ? B ' H ? 6:6 ' @J:C B' 6' G:'
6> 8 > ' >6;BC>H: ^' 6B ; :' G:' 6' 8 > ' >6 ; ' H> > : '
' ' >6' G:' B ? > ' B :>?' ' G:' ? : ' ' @>` '
:' >' ; CG' B 6 ' >' F> ' >6' > ; ; 6>' ; : :6C:' 6'
G>' 78> : ' 6' G:' B 8 G :>B ' >6;' B 8 G ' ; BG 6 '
>@ 8 ' : :6' ? :B' F>B' G:' B 6 ' >6;' ?H: 8 8B'
C8 :6 ' ' G:' HH: ' p>@' C ?H : 6 ' G:' 6> 8 >'
; : :6C:B' ' G:' H B 6 ' FG CG' F>B' :DC: :6 9' CG B:6'
' @:' G:' B :' ' >' :> ' C>H >
8 G' ' 6:A:G ' > ' G:' ; B >6C:' ' >@ 8 ' F:6 9'
? :B' @9' G:' ; :C ' 8 :' >6;' G 9' @9' G:' C 8 B:'

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&' A&' D ' R'' ` ' B:"' D ' T!']' IJ!' 34'
, >:>' @:>!' A2?>D>:!' #2=>' F 4B," >#
@""@4A M' ,2' "A # >"E=2,2ME ' '" #
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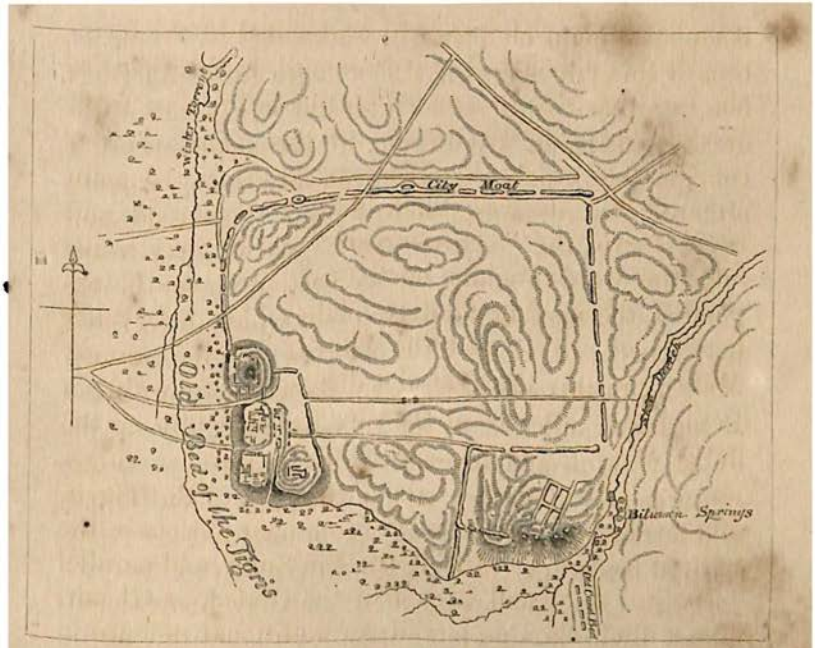

Plan of the Ruins at Nimrud (Calah).

the Tigris,[7] stood the second city of the empire, Calah, the site of which is marked by the extensive ruins at Nimrud.[8] Broadly, this place may be said to have been built at the confluence of the Tigris with the Upper Zab; but in strictness it was on the Tigris only, the Zab flowing five or six miles further to the south,[9] and entering the Tigris at least nine miles

[7] So Colonel Chesney (*Euphrates Expedition*, vol. i. p. 21).

[8] Sir H. Rawlinson and Dr. Hincks agree in reading the ancient name of this city as Calah. At the same time it is not to be denied that there are difficulties in the identification. 1. Nimrud being only 20 miles from Nineveh, it is difficult to find room for Resen, a "great city" (Gen. x. 12) between them, not to mention that there are no important ruins in this position. 2. Calah, moreover, if it gave name to Ptolemy's Calaciné, should be away from the river, for by placing Calaciné *above* Adiabené, he almost certainly meant further from the river.

[9] *Journal of As. Soc.* vol. xv. p. 342. At the same time it must be admitted that water from the

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@: F' G:' ? 8;' 86B ' E G:B:' 86B' > ' H :B:6 '
CC8H9' >6' > :>' B ?:FG>' BG ' ' >' G 8B>6;' 6 P
BG' >C :B ' FG CG' B' :' ? :' G>6' 6: G> ' ' G:'
> :>' ' G:' ? 6B' ' 6:A:G4 @8 ' ' B' G 8 G ' G> '
G:' H >C:' F>B' 6' >6C :6 ' ?:B' C 6B ; : >@ 9' > : '
>6;' G> ' G:' 86 :;' >C 6' ' G:' B' >6;' B ?:'
F 6 : ' B :>?B' G>B' BF:H ' >F>9' 6 ' B?> ' H 6'
' G:' 86B ^' G:9' ?' > ' H :B:6 ' >6' : 8 > '
78>; >6 :' G:' B ;:B' ' FG CG' >C:' G:' 8 ' C> ; 6> '
H 6 B' 6' G:' 6 G' >6;' :>B ' G:' >?H> ' ?>9' B '
@:' ; B 6C 9' >C:; ' ' F>B' >6 :;' F G' F: B'
> 6 ' B' FG :' C 8 B: # >6;' H : C:;' > ' 86C: > 6' 6P
: A> B' @9' > :B ' @8 ' F>B' 6 FG: :' ' A: 9' :> '
B :6 G' ' ; ?:6B 6B ' 6' G:' B 8 G' B ;:' ' ?8B '
G>A:' @::6' :BH:C > 9' F:> ' ' G: :' ' G>B' ; B><H '
H:> :;' > : G: ' &: :' G F:A: ' ' B::?B' H P
@>@ :' G> ' G:' B' >6;' G:' G ' : :G' B :>?' '
FG CG' G:' H :B:6 ' @ : > 6' ' G:' F> ' ?>9' G:'
>BC @:; ' ?:;' 6' >6C :6 ' ?:B' >' B8 C :6 ' H P
:C 6 ' FZ ;B' G:' F:B ' ' B::?B' ' @:' C: > 6'
G> ' G:' B' NFG CG' B' 6 F' >' ? :' S' >6C :6 9'
F:;' C B:' ' G:' C 9 ^' 6' G B' B ;:' ; :C 9'
>C 6 ' G:' A: ' >6;' :D :6; 6 ' > 6 ' ' >' ; B >6C:' '
' 9> ;B ^' ' ? :' G>6' >' G ;' ' >' ? :' F>B' G:'
9> ' 78> : ' ' H 6' ' G:' C 9' CC8H :;' @9' G:'
H> >C:B' ' G:' 6 B ' ' C 6B B :;' ' >' > B:;' H >

f @G' ?@# 42 FB4">F' "2' "G>' 4 "E' GE'
@' 4@ @,' @ F!' "B >,!' 2 ' ?A 4A' =2:>'
? ,,' G>' #@ F' ' @ 2"A>:' 4A@ ">:
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' %' 9 %& D2,' aD ' ' UR5'
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@:>' "A>' 4A@:" #B :@!' ' QIK!' ?, 4A'
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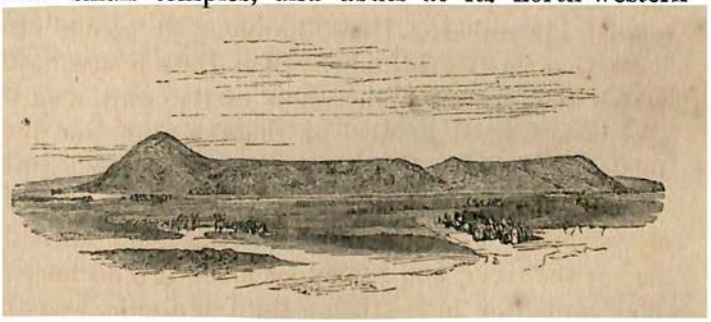
form, forty feet above the level of the plain, composed in some parts of rubbish, in others of regular layers of sun-dried bricks, and cased on every side with solid stone masonry, containing an area of sixty English acres, and in shape almost a regular rectangle, 560 yards long, and from 350 to 450 broad.[7] The platform was protected at its edges by a parapet, and is thought to have been ascended in various places by wide staircases, or inclined ways, leading up from the plain.[8] The greater part of its area is occupied by the remains of palaces constructed by various native kings, of which a more particular account will be given in the chapter on the architecture and other arts of the Assyrians.[9] It contains also the ruins of two small temples, and abuts at its north-western



angle on the most singular structure which has as yet been discovered among the remains of the Assyrian cities. This is the famous tower or pyramid which looms so conspicuously over the Assyrian plains, and which has always attracted the special

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[7] The platform is not quite regular, being broader towards the south than towards the north, as will be seen in the plan.

[8] Layard, *Nineveh and Babylon*, p. 654.

[9] See below, chap. vi.

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6 C:' ' @:' >A: : 2' 6':D>C ';:BC H 6' ' G B'
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?' G:' 6BC H 6B' 6' B'@ C B' 'G>A:'@::6'C ?P
?:6C:;'@9' 6:' ' G:' :> 9' 6 B'>6;'C ?H : :;' @9'
>6 G: ' B' 6 : 6>'B 8C 8 :'G>B' :;' ' G:'B8HH P
B 6' G>' 'F>B';:B 6:;' '@:'>'H >C:' '@8 >' '
6:' ' G: ' 'G:B:'? 6> CGB' 6 G: 'C 6J:C 8 :'
B' G>' ' F>B' >' F> CG F: ' @8' B'B::?B'A: 9'
? : 9' B 6C:' 6 ' >C@' ' >69' ? ;:' @9'FG CG' '
C ;;'@:'>BC:6;:;'G>B'@::6'; BC A: :;
9'? :B'@: F' >>G' 6' G:' HH B :'@>6 ' '
G:' B'F>B'>' ;' :>\'C 9' G:'6> A:'6>?:' '
FG CG' >HH:> B' 'G>A:'@::6' BBG8 ' G B'H >C:' B'
:H :B:6 :;'@9' G:' 8 6B'>' 1 :G' G: G> 'FG CG'
> :'BC> C: 9' 6 : '?':D :6' ' G B:'>' ? 8;' '
>>G ^' 'F '6 '@:'6:C:BB> 9' ';:BC @:'? 68 : 9'
G B' B :'>B' 6' :6: >'CG> >C : ' 'C B: 9' :B:?@ :B'
G:' G: ' 8 6B' ' BB9 >' 6 ' 6:B' ' F'? 86;B'
?> ' G:'H B 6' ' G:' ;'F> B'>6;'BG F' G>' G:'
BG>H:' ' G:'C 9'F>B'78>; >6 8 > ' G:'CG : ' @J:C'
B'>' > :'B78> :'? 86;' ' H > ?' F '>6;'>'G>

' .> 2 G2 'F>#4: G>#' @,@A!'?A 4A'
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2:=>:,E' A@G ">F' GE' "A>' >F>#'
"' ?@#!P'A>' #@E#!' N' #B::2B F>F' GE' @'
?@,,' Q' >>"' G:2@F!' I ' >>"' A MA!'
@ F' >@:,E' #>D> ' = ,>#' ' 4 :4B=L
>:> 4>!' GB ,"' 2 ' G@O>F' G: 4O!' ? "A' @'
#"2 >' G@#>=> "' ' "A>' A> MA"' 2 ' '
>>" P' >' "A> ' 2G#>:D>#' 8 N' 9 #7'
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E' 5 ' 5 ' :.4F 2B!' ' Q4' 0 '
" ' :.4F ?DP' , !' ' U!']' T K'
">#@#!' ? "A' A #' B#B@,' >a@MM>:@" 2 !'
=@F>' "A>' ? F",:' >' #"@F>#!' @ F'
"A>' A> MA"' > MA"' #"@F>#!' 2:' >@:,E' @

= ,>' j >' ,@4>F' "A>' E:@= F' @"'
>D>A!' @ F' 2 ' "A>' *B A:@">#' j
+>>' 2F' + 4' ' R!']' I K' A>'
= 2# BM' > >4"' 2 ' "A>' #":B4"B:>' >D> '
2?' #' ? " >##>F' "2' GE' :' /@E@:F'
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@ F' @ "@ '$2 >#' ;' 9 %&C !'
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? :B 6 C C8? : :6C:'>6;' 6 H>C:B >' G86; :;' :: ' >@ A:' G:' :A:' ' G:'H>6'C ?H B:;' 6 H> ' 'B86' ; :;'@ C B' 6 H> ' '6>8 >' :? 6:6C:B'>6;':DG P @ 6 ' CC>B 6> 9 :?>6B ' >'C>B 6 ' 'G:F6 B 6:' FG CG ?>9 6C:'G>A:':6C C :;' G:'FG :'B 8C 8 :' @ 8 ' ? ;F>9 6 G:'6 G B ;:' ' G:'H> ?' >6;' C B:'8H 6 B' :; :' B'>G G C 6:' 'H9 >? ;' G:' :B ' 'G:'H> ?' B C A: :;'F G G:' :?>6B 'F> B'>6;'F G G:>HB ' 8@@ BG'G8';:B6 'BG F' ?8CG >C:' ' ?H >6' @8 ;6 B' G B C 9 G>B @::6 B8HH B:;' ' :H :B:6' G:'$ @GC>' :B:64 @8' G:' ;:BC H 6#' G>' C:' >B 9 6 ' K 8 ' 6:A:G >6;' > >GL B::?B ' :6;:' G:' ;:6 P C> 6 F B:' G>6 86C: >6

G:'' 8 6B >' 1>:G G: G>' I :' G:' >B ' '>69 :D :6 ' F> ;B G:' B 8 G' H BB:BB 6 ' >' ;:C ;:; 9 BB9 >6 CG> >C : ' 'C ?H : :' 8 'B8 A:9' G: :P :' ' G:' CG : ' BB9 >6 F6B' F:' ?8B' :8 6 6 GF> ;B'>6;' H>BB 6 ' 6:A:G';:C' 8 '> :6P 6 ' G:' ?> 6 C:6 ' 8 6B 6 G:'B?>' B :>?' ' G:' 1G B B8' FG CG G>A:' ?>;:' G:' >@ A > :' ' 1G B>@ ;' 6:' ' G:'@:B' 6 F6 6>?:B 6 :6>' H >HG9' '@ 8'6 6:' ? :B ?' G:'6 G :>B' >6 :' ' G:'F> 2 ' 6:A:G' 6 >' ; :C 6 >'A: 9 :':>B' '6 G'B>6;B G:' 8 6 6 F6 >B 1G B>' @>;' ?' >' B?>' A > :' FG CG ?: 9 CC8H :;' B B8?? 'Y(G:' BC:6:' ' G:' >@ 8 B ' %' $ >' FG ' F>B G:' B ' ;B:6 ?@ ?' >? 6 ' G:' ? 86;B ' %:B H >? >' G:' : CB ' >6 BB9 >6 H> >C:' G:' :6C B8 :'>'1G B>@>;' B 6:> 9 B78> :' 6 BG>H:' :>CG B ;:' @: 6 ' >@ 8 ' -,,,' 9> ;B 6 ^

K :' 2",@ B:4A@#>F @ F :>L A ! 'QR 2"> K
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' H> ' ' ' B' A: 9' 9 ' G8 ' G:' F> B' > :' 6' : A: 9' B ; :' F: ' ?> : ; ' G: ' >6 :B' H 6 ' F> ; B' G:' C> ; 6> ' H 6 B ' ' 6:> 9' B 4' >6;' G:' F> B' G: ? P B: A:B' C 6B:78:6 9' >C:' G:' 6 G :>B ' G:' 6 GP F:B ' G:' B 8 G F:B ' >6;' G:' B 8 G :>B ' F> ; B' G:' ? ; ; :' ' G:' 6 G F:B ' F> ' >6;' H J:C 6 ' C 6B ; : >@ 9' @:9 6;' ' F>B' >' > B: ;' H > ?' ' G:' 8B8>' CG> >C : 4 >6;' G: :' B ;' J:' :> ' H> >C: ' FG CG' B' G 8 G ' ' G>A:' @: :6' H:6' ' G:' H > 8 ' >6;' 6' G> ' B ; :' 78 :' 86; : :6; : ; ^

8 ' ? :B' 6 9' ?' 1G B>@>; ' 6' >' ; :C 6' >' :' F:B ' '6 G ' > :' G:' 8 6B' '>' B ? > : ' BB9P >6' C 9 ' FG B:' 6> A:' 6> ? :' >HH:> B' ' G>A:' G: :6' > @ B ' B 8> : ;' 6 ' > ' ?' G:' ? ; : 6' A > :' ' G: G>6 ' &: :' F>B' >' H> >C: ' @8 ' @9' B> ' G>; ; 6' ' 6:' 'G B' B 6B ' >B' F: ' >B' B:A: > ' : ? H :B' >6;' G: ' : ; C:B ' 6' G:' HH B :' ; :C 6 ' > ' G:' ; B >6C:' '>@ 8 ' F:6 9' ? :B ' B' 1 : : ? B ' >6' BB9P >6' 8 6 ' FG B:' 6> ? :' C>66 ' 9 : ' @:' :6; : : ;' HG ' 6: C> 9 < 0 :B ' ' G B' B :' >6;' >@ 8 ' G> ' F>9' @: F: :6' G:' 8 6B' ' 6:A:G' >6;' ? 8;' ' > >G ' B' : > ? 9>G ' >' A > :' ' B ? :' B `: ' G:' F> B' ' FG CG' > :' G 8 G ' ' @:' ' BB9 >6' C 6B 8C 6 ^' 0 :' ? >9' C 6J:C 8 :' G> ' G B' H >C:' F>B' G:' :B:6 ' ' >BC # ' & 9' C H 8 : ' FG CG' B' B> ;' ' G>A:' @: :6' >' > :' C 9 ' 6 : H B: ;' @: F: :6' 6:A:G' >6;' > >G # 6' G:' B> ? :' > 8; : ' @8 'JC 6B ; : >@ 9' 8 G: ' ' G:

1 / @E@:F! A ' ' : ' ! ' YWQ& 9 A>' @=>' # 2: =>F 2 ' "? 2' >,>L => "#! "A>' :#" =>@ M 4 "E! ?A 4A' ?2B,F G>' G ' 2:' : & A>' #>42 F >,>=> " # "A>' @=>' 2 ' @' M2F 2"A>:L ? #>' B 0 2? ' "2' B # " @ F "A #! G> M @' =>:>' =2 2M:@=! 4@ 2" G>' :> :>L #> ">F A2 >" 4@,,E

H C ' ' %' " % '! D2, ' &. +' ' QI ' @ F RU H >' / . . ' ">: :>">:# A@D>' '" ' "A>' ,@4>' 2 ' "A>' >G:>?' $ &' A>' @:MB=# #BG#" "B">' "A>' ?A2,,E F >:> " @=>' 2 ' >,5 ##@: 1 ¸ 2401 3# 1> ' &+' I

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' @:' :: BZ'>B' @: >'>6;' ' G B' ;>9' : > 6 6 ' B'
>6C :6 '>HH: > 6' G:B:' F: :' @:' H 6C H>' F6B'
FG B:' H B 6B' C>6' @:' D:; ' @: 6 6 ' ' BB9 >'
H: ' ' @:' >C ' 6' @:' ? ? : ; > :' A C 6 9' '
6:A:G

$:B ; :B' G:B:' H >C:B' @:' 6BC H 6B' ? :6 6' >'
> :' 68?@: ' ' C :B' FG CG' F:' C>66 ' ; : 6 : 9'
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>6;' p>;8' @:9 6;' G:' F: ' p>@' H @>@ 9' B ? :P
FG: :' 6' G:' A C 6 9' '1: 8 4 18 @>6' ;8' N3S'
>H8 8' 1>H>' G' ; >@: :'4 >@ G>' >6;' 1G>H> '
G8' @:' ?: ' ' FG CG' 6>?:B' :C> B' @:' >'
H>C@ B' ' :?9 ' 6' G:' ; B C ' >@ 8 ' @: >4'
8 > G>' > > ' N3S' 8 >' $> >' 8H;8' >6;'
?>69' : B ' C 6C: 6 6 ' FG B:' B 8> 6B' ' B' 6 '
:A:6' H BB @ :' ' ?> :'>69' :>B 6>@ :' C 6J:C 8 :' G:'
FG :' C 86 9' @: F::6' G:' B' >6;' G:' ? 86 > 6B'
o @#' :A ; :6 9' B 8; ; :'; G C 9' F G' F6B ' >B' ' B' > '
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B:> CG 6 ' :D>? 6> 6' ' G:' :6 :' : 6' G>B' > :6'
H >C:' ' B' ; :' ' > : ?H ' >6' >BB 6?:6 ' ' H> P
C8 > ' C> :B' ' G:B:' C ?H> > A: 9' @BC8 :' 6>?:B
6' 0 :B : 6' BB9 >' ' G:' >C ' 6' G:' G ' @>6 '
' G:' B ' FG :' G: :' B' :>B 6' ' @: :A:' G>'
H H8 > 6' F>B' >B' ; :6B: ' >6;' G>' ' C :B' F: :' >B'
68?: 8B ' >B' 6' G:' HH B :' B ; :' ' G:' A: K' :A:6

S' :G ,' # >"E=2,2M 4@,,E' N' "A>' 2B:' M2F#' P' GB"' "' # 2"' O 2"D ' ?A 4A' @:>' " :2' F>" '>#' L "> F>F ' A # ,@4>' # :#" => L " 2 >F' ' "A>' :> M ' 2 ' +A@=@#5 - B,!' "A>' #2 ' 2 ' "A>' ,@4O' G>, #O' O M!' @,7B "' 4' Q

N % # & D ' I ' :@ O, @' ?2B,F' G>' >"E=2,2M 4@,,E' N "A>' 2B:

#A!P' @' @=>' 2" D2 E' ">,, M G,>' "' ?@# 4>:"@ ,E' "2' "A2' >@#"' 2 ' "A>' M: #!' @ F' :2G@G,E' 2" @:' :2=' :G4,@

' C ' ' %' %& D2, ' aD '
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' / @E@:F!' - > D ' ' ' B '
$!' D2, ' ' ' IQ' 9 ' '
' !' ' UQ!' U

- / ' +

:F: B :B C>6 @: ; : : ? 6 > : 9 D: ; F 6 G: :> 9 ; :C>9 H H8 > 6 6 G B: H> B2 FG CG B: : ? G>A: > :6 6 G: H :B:6 ; :B: C 6; 6 BG 9 > : G: ; :B 8C 6 G: BB9 >6 : ?H : @9 G: C 678: 6 %: ; 2:B $:B ; :B BBG8 FG CG B D: ; G: 8 6B > 1 :G G: G> F: C> 6 9 C> : F G C: > 6 9 B ? : G> ; `:6 H >C:B G:B: > : >` @ 6> FG CG 2B G: ? ; : 6 B @ 6 G: B @ B G: : : B4 ? ; FG CG B ? ; > > @: 4 &> >6 ^ FG CG : > 6B B 6> ? : 86CG>6 : ; 4 FG CG B G: : : C:B 8 ? < 6 F 1 : :B 9:G4 6> 6 F 6>G 6 >6 B >6 ; 6 G: 8HG > :B4 >6 ; ; >6 6 F @>6 6 G: F: 1G>G 8 G: G: 6 F6 F6B G B : 6 FG B: :D>C H B 6 B ? : :BB 86C: > 6 > : G: FP 6) (>A68B FG CG B H: G>HB 86 B 6:> %> ; 64 8`>6>` `>6 ^ 6 G: A C 6 9 B P @ 6 4 >`>HH> : :`:HG H @>@ 9 6 > ? > >64 : H6 >@ 8 >G >B : 64 >G >6 ; %> > B 6 G: *: 8J: A: B @ 64 1> 6 >6 ; $: G 1G> 8H 6 G: F: 1G>@ 8 4 B8H >6 ; > > >@>6 6 G: 8HG > :B @: F: :6 B J86C 6 F G G: 1G>@ 8 >6 ; 6>G4 >6 ; 1G8` 6> 6 G: ? 86 > 6B 6:> G: B 8 C: G: B $:B ; :B G:B: G: 6BC H 6B C 6 > 6 > ? :6 6 B ? : BC :B F6B FG 9 @BC8 : C 6C: 6 6 FG CG F: C>66 :A:6 ; : : ? 6: FG: G: G:9 >9 F:B >B G: B 8CG > : G: CG : : >HG C> : > 8 :B BB9 >

N A> @=> 2 @:@ A@# 2"! . J K
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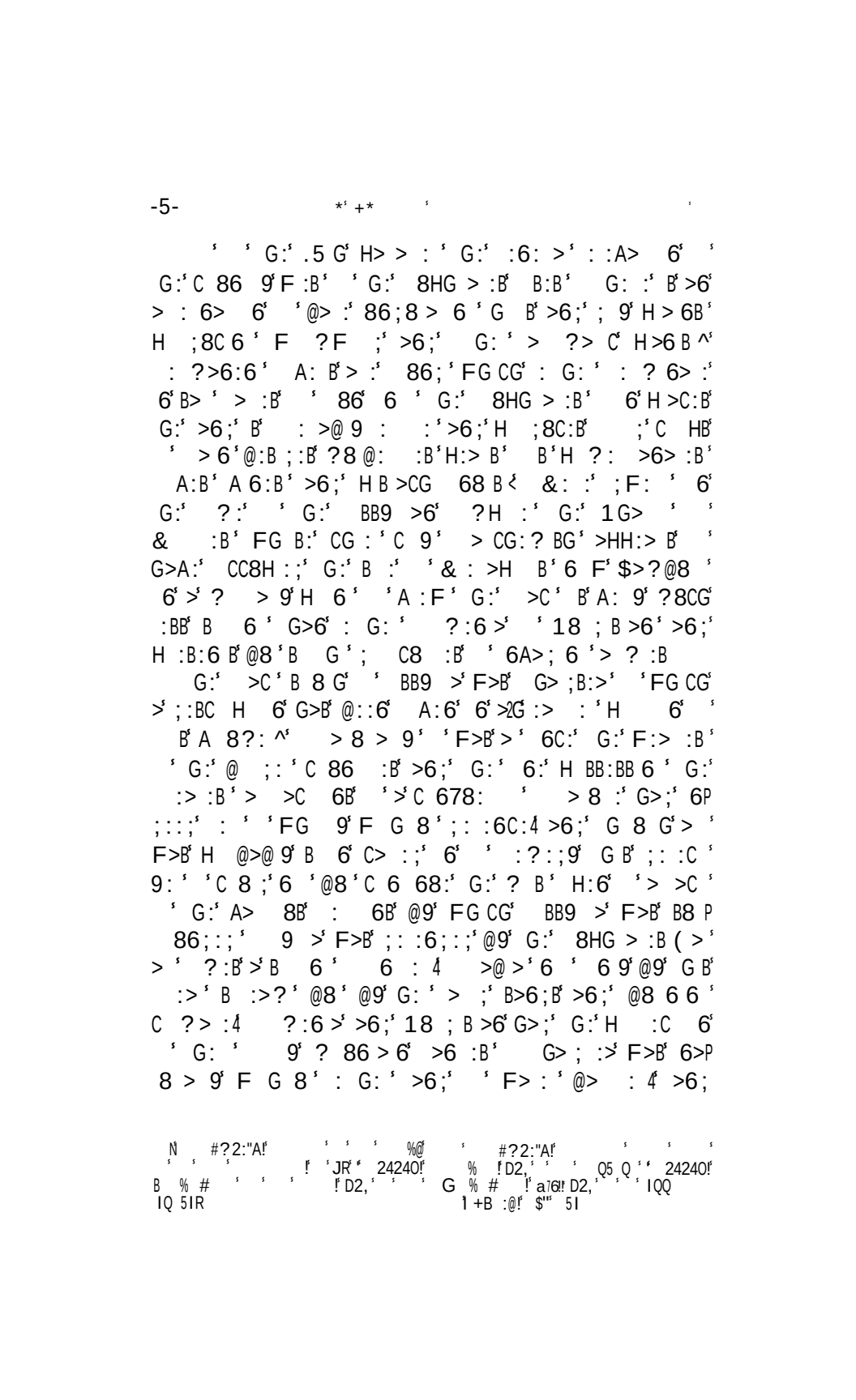
-5, *' +* ' * '

>B' >' B:A:6 ;' F> ' ' G:' H :C 6' ' G:' : :'
%:B H >? >6' F >6;' ?' G:' ?> >8; 6 ' @:B'
6G>@ 6 ' G:' @> :' H > :>8' ' >6
G' ' BB9 >' >9' >' C 86 9' A: 9' B ? > ' ' G:'
p> B' : 6 ' ?:6 >' :' 18 ; B >6 ' C 6B B B'
' G:' ? B ' H> ' '>' 68?@: ' ' H> > :' ?> 6 > 6'
>6 :B ^' F G' ;::H' A> :9B' @: F::6' G:? ' F> : :;' @9'
:> ' A: B' ' G: ' > 8:6 B' B' G G:B ' H:> B' :'
G B:' ' p> B ' >BC:6;' C 6B ;: >@ 9' >@ A:' G:' B6 F '
6: Y' ' G>B' G:' B>?:' >@86;>6C:' ' F ;' :BH:C > 9'
6' G:' ? :' 6 G: 6' H> B4' >6;' G 8 G' B' A> :9B'
> :' BC> C: 9' B ' : :' ' B' H ;8C B' B ' >@86;>6 '
>6;' A> :; ' ' B' B ' >' C 86 9' FG: :' >' 68?: 8B'
H H8 > 6' ?>9' 6;' B8@B B :6C: ' G:' ? B ' B 6 '
C 6 >B ' FG CG' ' : B' ' G:' p> B' : 6' B' 6' G:'
; :C 6' ' B' ? 86 > 6' >6 :B ' G:' p> B' ; :B'
86' ?' 6 G F:B ' ' B 8 G :>B ' :' G:' H 6C H>'
? 86 > 6B' ' > 9 ' ::C: ' >@ >' & 6;8B >6 ' >6;'
CG 6' G 6>4' G B:' ' ?:6 >' G>A:' >' C 8 B:' ?'
>' :' 6 G' ' :>B ' ' >' :' B 8 G' ' F:B ' :' G:'
H>6 BG' : >B ' G:' F BB' >6;' 9 :B:' HB ' G:'
8 G: 6' > H> G >6B ' G:' :> : ' $> >6 ' G:'
C >6' >8 8B ' G:' 9H >6' 9?H8B ' >6;' ' G:'
>6' G>6 ' G8B' G:' >D:B' ' G:' F ' CG> 6B' > :'
6:> 9' > ' G ' >6 :B' ' 6:' >6 G: ' G:' >6 8 > '
@>B 6' ' >8' CC8 6 ' > ' G:' H 6 ' ' C 6 >C ' >6;'
B :6 6 ' G:' >@ 8H 6:BB' ' G:' >6B 6 ' > 6 '
FG: :>B' G:' p> B' ? 86 > 6B' H :B:6 ' G: ' >;8> '
B H:' ' G:' %:B H >? >6' F >6; ' >6;' B:' 6'
G G: ' >6;' G G: ' ; :B' >B' G:9' :C:;:' ?' ' G:'
? 86 > 6B' ' ?:6 >' >BC:6;' > ' 6C:' ' G: ' 8

%' @E@:F!' A ' ' : ' !' ' ' A># >E!' # ' O;5 '
' !' R ' 2= @:>' +":@G ' a ' I !']' U ' ' D2, ' ' H ' 4!T' ' / @E@:F!' I ' # ' 4

G: G ʼ ?ʼ G:ʼ :A: ʼ ʼ G:ʼ B ʼ >6;ʼ G:ʼ ; :Bʼ
G:6ʼ >;8> 9ʼ ;:C 6:ʼ F> ;Bʼ G:ʼ 8D 6: ʼ ʼ P
FBʼ ?ʼ G Bʼ >B ʼ C 6 >B ʼ G> ʼ FG :ʼ p> Bʼ 6P
A :Bʼ G:ʼ 6G>@ >6 Bʼ ʼ G:ʼ %:B H >? >6ʼ H > 6ʼ ʼ
H:6: > :ʼ Bʼ :C:BB:B ʼ FG CGʼ > :ʼ > ʼ B ʼ :>; 9ʼ >CC:BP
B @ :ʼ 6;ʼ 6 9ʼ Fʼ F ;ʼ >6;ʼ B>A> :ʼ F> ;Bʼ G:ʼ
6 : ʼ G:ʼ ? :6 >6ʼ ? 86 > 6Bʼ :H: ʼ @9ʼ H :B:6 P
6 ʼ G: ʼ :> :B ʼ ; C8 :Bʼ >6;ʼ ? B ʼ @> :6ʼ >BH:C ʼ
> ʼ 6C: ʼ B:: ? 6 ʼ F Gʼ G: ʼ C 9ʼ B ;:Bʼ >6;ʼ B6 F ʼ
C >;ʼ B8 ? ? Bʼ ʼ ?ʼ >6ʼ > ? B ʼ 6B8 ? 86 >@ :ʼ @P
B >C :ʼ ʼ >6ʼ 6A>; 6 ʼ G B ʼ BB_ >6ʼ G B 9ʼ @:> Bʼ
>C:Bʼ ʼ G Bʼ ; : :6C:#4ʼ ʼ FG :ʼ G:ʼ ? 86 > 6ʼ
: 6ʼ ʼ G:ʼ :>B ʼ Bʼ >;8> 9ʼ B8@;8:;ʼ >6;ʼ CC8H :;ʼ
@9ʼ G:ʼ H: H :ʼ ʼ G:ʼ H > 6 ʼ G> ʼ 6ʼ G:ʼ 6 Gʼ C 6P
68:Bʼ ʼ G:ʼ >B ʼ 6ʼ >ʼ B > :ʼ ʼ G B 9ʼ >6;ʼ B: ? P
6;:H:6;:6C:
0 :B ʼ ʼ BB9 >#ʼ N>CC ; 6 ʼ ʼ G:ʼ :D :6 ʼ FG CGʼ
G>Bʼ G: :ʼ @::6ʼ A:6ʼ ʼ S ʼ G:ʼ @ ;: ʼ C 86 :Bʼ F: :ʼ
F> ;Bʼ G:ʼ B 8 Gʼ >@ > ʼ >6;ʼ F> ;Bʼ G:ʼ 6 Gʼ
9 >ʼ ʼ ;:B: ʼ : 6ʼ B ? > ʼ ʼ G> ʼ FG CGʼ
@ 86;Bʼ G> ;e>ʼ 6ʼ G Bʼ ; :C 6ʼ :D :6;Bʼ > 6 ʼ G:ʼ
8HG > :Bʼ >Bʼ > ʼ 6 Gʼ >Bʼ G:ʼ .5 Gʼ H> > : ʼ >HP
H >CG 6 ʼ C ? ? 6 9ʼ F G 6ʼ >ʼ A: 9ʼ BG ʼ ; B >6C:ʼ ʼ
G:ʼ A: ʼ G Bʼ G>Bʼ @::6ʼ > ʼ > ʼ ? :Bʼ G:ʼ C 86 9ʼ ʼ
G:ʼ F>6;: 6 ʼ >@B ʼ ʼ Bʼ >A: B:;ʼ 6ʼ H >C:Bʼ @9ʼ
C 9ʼ ; :Bʼ ʼ >ʼ Fʼ : :A> 6 ʼ >6;ʼ 6 : C:H :;ʼ @9ʼ
CC>B 6>ʼ 8 ʼYʼ @8 ʼ G: F B:ʼ ʼ Bʼ >ʼ C 6 68 8Bʼ
>A: 9ʼ ʼ B>6;9ʼ H > 6 Kʼ 6C>H>@ :ʼ ʼ B8B > 6 6 ʼ >ʼ
B: :;ʼ H H8 > 6ʼ $: F::6ʼ G:ʼ ;:B: ʼ >6;ʼ G:ʼ
A: ʼ 6 : A:6:Bʼ C ? ? 6 9ʼ >ʼ 6> Fʼ B Hʼ ʼ : :ʼ
: 9 ʼ FG CGʼ 6ʼ BB9 >6ʼ ? :Bʼ F>Bʼ G: ;ʼ @9ʼ G:ʼ
B8 G ʼ ʼ G8G :B ʼ >6;ʼ G:ʼ >? e>6Bʼ ʼ 9 >6B



G:' ? 86;B' >6;' ;9 :B' A G: :@9' BG:' B A:' ' B8HH 9' G: ' F>6 ' F: :' 2>' G:' @:B ' H ' B8@B 8 :B' ' > 8 :<B' @8 F> B' &: :' > > 6' : >HG C>' :> 8 :B' F ' @:' 86;' ' G>A:' G>;' >6' ?H >6 ' @:> 6 ' 6# G:' C 8 B:' ' G B 9 ' G:' C B:' C 66:D 6' ' G:' F ' C 86 :B' 6' > ? B ' :A: 9' > : ' :B8 6 ' ?' G: ' HG9B C>' C 6 ?> 6

%

N ##E: @!' 4>,>G: "@">' >'" = @M "BF >!' >'" = B," 2: = ' 4:@4 "@">' F " ## = @ P'
5 - ' / ı . ' aa ' J

)' ; : BC @ 6 ' G:' C ?> :' >6 ;' H ;8C 6B' ' BB9 >'
' F ' @:' 6:C:BB> 9' ' ; A ; :' ' 6 ' : 6B4 B 6C:'
G:' C 86 9' B' B ' > :' >6 ;' @:' HG9B C>' : >HG9'
B ' A> : ; ' G>' >' B 6 :' ; : BC H 6' F 8 ;' 6:C:BB> 9'
@:' @ G' 6C ?H : :' >6 ;' 86 8: ' >B : 6' BB9 >' G>B'
>' C ?> :' ' B' F6' G:' :B8 ' ' B' H B 6' >' G:'
' ' p> B' 6' 0 :B : 6' BB9 >' F :' ?>9' ; BP
6 8 BG' G : :' C ?> :B' G>' ' G:' 8HH: ' ' ? 86P
> 6 8B' C 86 9' :D :6 ; 6 ' ?' $ ' ' ' >6 ;'
*: ` :G' G>' ' G:' ? ; ; :' : 6' 6' : G: ' B ; :' '
G:' 6J> ' >6 : ' >6 ;' G>' ' G:' F: ' : 6' ? ? :P
; > : 9' @ ; : 6 ' 6' $>@9 6 >' G:' C ?> C' ; P
: :6C:B' ; :H:6 ;' 6'H> ' 6' > 8 ; :4 @8 'H @>@ 9' 6' >'
:> : ' ; : : :' 6' ; : :6C:B' ' : :A> 6 ' ; B >6C:' '
A C 6 9' ' ? 86 > 6B' >6 ;' G:' :
>B : 6' BB9 >' ?' B' A C 6 9' ' G:' G G' >6 ;'
B6 F C >;' >6 :' ' p> B' G>B' >' C ?> :' >' 6C:'
C : ' >6 ;' ? B : ' G>6' BB9 >' F :B ' ' G:' B'
G:' B8 ? ? : ' G:> B' > :' : ? H: : ;' @9' @ : : ` :B' ?' G:'
>; J>C:6 ' ? ? > 6B' >6 ;' G 8 G' 9 6 ' ' G:' C 6P
B 8 6' #>6' 8 H:>6 ' > :' > ' :BB' HH :BB A:' G>6'
G:' ;' @ >B B' FG CG' H :A> ' 6' G:' G: ' B ; :' '
G:' A: ' ' ;' ; :>' ' > 6' > B' 6' G:' F 6 :

' C ' ' %' " % '! D2, ' N' "2:: F' G,@#"#!P' ?A 4A' @:>' "A>' 4B:#>'
. -' ' TT' * @#">: ' ##E: @' # 2 ' "A>#>' 42B ": >#' : ' / @E@:F' >a5'
2"! A2?>D>:! > " :>,E' :>>' :2=' "A> , >: > 4>F' @'" 72EB O' N "A>' H

>6;‘ :A:6‘ 6‘ :‘ BH 6 4‘4 FG :‘ > : ‘ G:‘ > 6B‘ > :‘
H>B ‘ G: :‘ B‘ :78:6 9‘ >6‘ >@86;>6 ‘ ;:F # FG CG‘
B8HH B‘ A: : > 6‘ >6;‘ G: HB‘ ‘ A:#‘C 6:BB‘ ‘
G:‘ > ‘ G:‘ F 6 : B‘ > :‘ ? ;: > : 9‘ B:A: : #
6‘ G:‘ ? B ‘ B 8 G: 6‘ H> ‘ ‘ BB9 > ‘ ?‘ > ‘
.\k‘ ‘ .jk‘ .,2‘ G:‘ C ?> :‘ BC> C: 9‘ ; : B‘ ?‘ G> ‘
‘ $>@9 6 > ‘ FG CG‘ G>B‘ @::6‘ > :>;9‘ ;:BC @:; #‘
G:‘ B>?:‘ @8 6 6 ‘ B8??: B‘ >6;‘ G:‘ B>?:‘ CG 9 ‘ @8 ‘
6 ‘ :> 9‘ C ;‘ F 6 : B‘ H :A> ‘ 6‘ @ G‘ ; B C B‘4
>6;‘ G:‘ ?:‘ >6;‘ CG> >C : ‘ ‘ G:‘ > 69‘ B:>B 6‘ B‘
> :‘ 6‘ :>CG ‘ G:‘ B8??: B‘ > :‘ H: G>HB‘ >‘ :‘
:BB‘ G ‘ >6;‘ G:‘ F 6 :%‘ >‘ :‘ C ;: ‘ G>6‘ 6‘ G:‘
? :‘ B 8 G: 6‘ >6;‘ > 8A > ‘ : 64 @8 ‘ G:‘ ; : :6C:‘
B‘ 6C 6B ;: >@ :‘ >6;‘ G>B‘ 6:A: ‘ @::6‘ >CC8 > : 9‘
?:>B8 :;
6‘ G:‘ C:6 > ‘ H> ‘ ‘ 0 :B : 6‘ BB9 > ‘ 6‘ : G: ‘
B ;:‘ ‘ G:‘ 6J> ‘ >6 : ‘ G:‘ C ?> :‘ B‘ ;:C ;:; 9‘
C : ‘ G>6‘ 6‘ G:‘ : 6‘ >;J 6 6 ‘ $>@9 6 > ‘ 6‘
B?6?: J‘ G 8 G‘ G:‘ G:> ‘ B‘ :> ‘ :BH:C > 9‘ ?‘
6 6‘ ‘ B86B: ^‘ 9: ‘ G:‘ 6 G B‘ > :‘ > : 9‘ HH :BB A: ‘
>6;‘ G:‘ ? 6 6 B‘ > :‘ :6J 9>@ : ‘ G:‘ BH 6 ?:‘ 6‘
G B‘ : 6‘ B‘ >@B 8 : 9‘ ;: C 8B4 ‘^ G:‘ >8 8?6‘ B‘
H :>B>6 4‘ >6;‘ G:‘ F 6 : ‘ G 8 G‘ C ;‘ >6;‘ >CC ?P
H>6 :;‘ @9‘ >‘ ;‘ ;:> ‘ ‘ > 6‘ >6;‘ B6 F < B‘ > : 9‘
H 6 :;‘ >6;‘ 6:A: ‘ 6 :6B: 9‘ 8B ‘ ?B‘ ‘
G86;: ‘ >6;‘ G 6 6 ‘ > :‘ :78:6 ^‘ :BH:C > 9‘ 6

!‘ 2:‘ GB: M‘ ? F# :2=‘ "A>‘ #2B"A!‘ ?A 4A‘ 244@# 2 @,,E‘#?> "‘ 2D>:‘ "A>‘ 42B ":E!‘ F: D M‘ ‘ "A> :‘ #A2 5"5‘ , D>F‘ B:E‘ >D>:E"A M‘ G> 2:>‘ "A>= P‘ /qA ‘ ‘ : ' $!‘ ‘ 1U K
C C ‘ ‘ %‘ " % '!‘ I‘# 4
N #?2:"A%# ' !‘ ‘
C +B :@!‘ ‘ Q5
‘ A4# >E!‘) # ‘ # !‘ D2, ‘ "‘ I J ‘ %
N +>>‘ : ‘ / @E@:F%# @442B "‘ 2 ‘ A # D # "‘ "2‘ "A>‘ + @:‘ @ F‘ "A>‘ 7A@G2B:‘ ‘ I Q ‘ ;A ‘ ‘ : ' !‘ ‘ U5 J"‘ 4 ‘ @"4 4B,@:,E‘ ‘ UJ! JT!‘ R !‘ @ F‘ U K
‘ A># >E!‘ I‘# ‘4
I /@E@: ‘ A ‘ ‘ ‘ : ‘ $!‘ D2, ‘ ‘ ‘ I U!‘ D2, ‘ ‘ ‘ QU‘ A ‘ ‘ : ' !‘ ‘ U !‘ U !‘ @ F‘ TU!‘ TQ"‘ 4A%# * !‘ D2, ‘ ‘ ‘ I

BH 6 ' >6;' G:9' > :' :6' ' :D > ; 6> 9' A :6C:')
G> B 6:B' > ' ' G:'B `:' 'H : 6<B' : B'4# G:' G P
6 6 ' B' 6C:BB>6 '4 >6;' G:' F 6;' > :B' F G' 8 9'
G:' C:' ' G:' :?H:B ' B 'G F:A: 'B 6' :DG>8B :;'4
6' >' :F' G 8 B' ?:' ' G>B' H>BB:;' >F>9 ' >6;' G:' B 9'
B' 6C:' ? :' 7 8; :BB'4 >' ;: G 8 ' C> ?' >6;' :BGP
6:BB' H: A>;:B' G:' > ' H ;8C 6 ' ? 6 :;' B:6B> 6B'
'H :>B8 :' >6;' :H B: #
G:' ? 86 > 6' >C ' FG CG' : ? 6> :B' 0 :B : 6'
BB9 >' ' G:' 6 G' G>B' >' C ?> :' A: 9' ?8CG' ? :'
8B' G>6' G:' C:6 >' : 6' G:' : :A> 6' '
G B' ; B C ' B' C 6B ;: >@ : 4# >6;' G:' 6:> ' A C 6 9'
' G:' :>' ? 86 > 6' C 86 9' ' ?:6 >' F G' B'
: : 6>' B6 FB' >6;' F 6 : B' ;8 6 'G> ' G:'9:> ' :6;B'
:> 9' ' F: ' G:' :?H: > 8 :' FG CG' 6' G:' F 6 : '
;:BC:6;B' ' : G ' ' :6' ;: ::B' @: F' `: ^' %8CG'
B6 F' G:6' > B' FG CG' 8B8> 9' :B' ' B ?:' F:: B'4
G:' BH 6 ' B' F: ' >6;' B ?9 '@8 ' G:' B8?? : ' >6;'
G:' >8 8?6' > :' 6:'4 >6;' 6' G:' F:B : 6' H 6' I '
G:' : 6 '>@ 8 '&> >6' >6;' >G' G:' B8?? : ' G:> '
B' :> ' G:' C ?> :' B' G: :' >6' K' :D :?:'L' 6:' '
8B:' >6' :DH :BB 6' '&8?@ ; <8 (G:' >6 :' ' G:'
G: ? ?: : '@: 6 ':A:6' :> : ' G>6' ' B' 6' G> ;B:>'
:>CG 6 '6:> 9' N ' H: G>HB' CC>B 6> 9' :DC: : ; 6 S'
"- ,' ;: ::B
8CG' B' G:' H :B:6 ' C ?> :' ' BB9 >' F:B '>6;'
:>B ' ' G:' B ' G: :' B' 6 ' :>B 6' ' @: :A:'
G>' ' F>B' A: 9' ; : :6 ' 6'>6C :6 ' ?:B' ' >

1 / @E@:F' A ' ' : ' ' D2,' ' ' I R
' TU'' $2 >#' C ' ' %' < 2,2 >,' A># >E' #@E# 8 N' A>'
D" % '' D2,' aD' ' J A>@'' ' #B= =>:' # II x' B F>:' @'
C / @E@:F' G F' ' U Z "> " P/, # ' # ' I'#'4 K'
N :' #?2:"A' >#" =@">#' "A>' :' #?2:"A' #@E# "A>' > 25'
@D>:@M>' >,>D@" 2 ' @'' I ' >>'' #5' =>">:' :>@4A># IIQX' ' "A>' #A@F>'
' ' TK I K
% A># >E' # ' r !

ʻ ʻ / *!ʻ * / !ʻ ʻ - * ʻ)) * * ʻ JR

6ʻ F>Bʻ G:6ʻ ? :ʻ C ? ? 6ʻ >6;ʻ C8 A> 6ʻ ? :ʻ F ; : 9ʻ :D :6; : ;ʻ G:ʻ :?H: > 8 :ʻ F 8 ;ʻ 6 ʻ ; 8@ʻ G>A:ʻ @: :6ʻ B ? : FG>ʻ F: ʻ >6;ʻ G:#> ʻ ? :ʻ ? B ʻ $8 ʻ 6: G: ʻ 6ʻ HG9B C>ʻ 6 ʻ 6ʻ G B C>ʻ 86;Bʻ C>6ʻ ʻ @:ʻ > 8: ;ʻ G>ʻ G:ʻ ; : :6C:ʻ G8Bʻ H ;8C: ;ʻ F>Bʻ ? :ʻ G>6ʻ B G ʻ G:ʻ CG : ʻ C>8B:Bʻ ʻ G:ʻ :P ?> >@ :ʻ G:>ʻ ʻ %:B H >? > (B ʻ ?8CGʻ :DC: : ; 6 ʻ G>ʻ ʻ ?>69ʻ C 86 :Bʻ 86; : ʻ G:ʻ B>?:ʻ H> > : Bʻ ʻ > 8; : (> :ʻ Bʻ 6:>ʻ A C 6 9ʻ ʻ G:ʻ >@ >6ʻ >6;ʻ 9 >6ʻ ; :B: Bʻ >6;ʻ Bʻ F>6ʻ ʻ : :Bʻ G B:ʻ :>ʻ : : > B ^ʻ 0 G :ʻ G:ʻ Bʻ ʻ G:B:ʻ C>8B:Bʻ F 8 ;ʻ @:ʻ FG 9ʻ86 8CG: ;ʻ@9ʻ C8 A> 6ʻ G:ʻ B:C 6;ʻ F 8 ;ʻ @:ʻ > :C : ;ʻ 6ʻ @8ʻ >ʻ B?> ʻ ; : : :ʻ G:ʻ 6 9ʻ : :ʻ FG CGʻ Bʻ 6 F6ʻ ʻ G>A:ʻ @: :6ʻ >6H :6 9ʻ C8 A> : ;ʻ 6ʻ %:B H >? >ʻ Bʻ G:ʻ ; > : H> ?4 >6;ʻ >Bʻ G Bʻ C:>B:Bʻ ʻ @:>ʻ 8 ʻ#>@ 8ʻ > ʻ . j ʻk ʻ Bʻ :> : ʻC8 A> 6ʻ C 8 ;ʻ G>A:ʻ H :A> : ;ʻ 6 9ʻ 6ʻ >ʻ A: 9ʻ B?> ʻ H 6ʻ ʻ G:ʻ C 86 9ʻ >6;ʻ B ʻ F 8 ;ʻ G>A:ʻ > :C : ;ʻ G:ʻ :6: >ʻ C ?> :ʻ @8ʻ : ʻ & B C> 9ʻ ʻ F:ʻ 6; ʻ>? 6ʻ G:ʻ :> G:B ʻ 6 C:Bʻ FG CGʻ G>A:ʻ >69ʻ C ?> Cʻ @:> P 6 ʻ 6; C> 6Bʻ G>ʻ G:ʻ :?H: > 8 :ʻ >6;ʻ G:ʻ C 6P B:78:6ʻ C 6; 6ʻ ʻ G:ʻ C 86 9ʻ F: :ʻ >6C :6 9ʻ A: 9ʻ 6:> 9ʻ FG>ʻ G:9ʻ 6 Fʻ > :ʻ / :6 HG 6ʻ BH:> Bʻ ʻ G:ʻ @> :66:BBʻ ʻ G:ʻ >Cʻ @: F: :6ʻ G:ʻ 1G>@ 8ʻ >6;ʻ $>@9 6 >ʻ >6;ʻ G:ʻ :6 :ʻ >@B:6C:ʻ ʻ > :ʻ 6ʻ >Bʻ B 6ʻ : ?Bʻ >Bʻ C 8 ;ʻ @:ʻ 8B: ;ʻ > ʻ G:ʻ H :B:6ʻ ;>9ʻ >6ʻ F 6ʻ G Bʻ :DC: :6ʻ >8 G :Bʻ 6 :Bʻ G>

Nʻ B=G2,Fʻ => " 2 #ʻ "A:>>ʻ - @E#ʻ ʻ ?A 4Aʻ ":>>#ʻ 422,ʻ ", >ʻ @ :!ʻ D b !ʻ GEʻ 422, Mʻ #A@F>!ʻ GEʻ >D@ 2:@" 2 !ʻ @ Fʻ GEʻ :@F @" 2 ʻ N)2:>#"#!Pʻ A>ʻ #@E#!ʻ Nʻ :2">4ʻ "A>ʻ M:2B Fʻ :2=ʻ "A>ʻ F :>4ʻ :@E#ʻ 2 ʻ "A>ʻ #B !ʻ >D@ 2:@">ʻ ,B F#ʻ >,@G2:@">Fʻ GEʻ "A>ʻ ":>>#ʻ "A>=#>,D>#!ʻ @ Fʻ 422,ʻ "A>ʻ #":@"@ʻ 2 ʻ @ :ʻ ʻ = =>L F @">ʻ 42 "@4ʻ ? "Aʻ "A>=ʻ GEʻ "A>ʻ ,@F 5

@" 2 ʻ2 ʻA>@ʻ :2=ʻ "A> :ʻ@ > F 4B,@:ʻ 2:M@ # 2:ʻ ,>@D># Pʻ # >4"# % ʻ A J !ʻ D2,ʻ ʻ ʻ I R!ʻ * ʻ K I A># >E!ʻ # ʻ # !ʻ D2,ʻ ʻ ʻ I J ʻ . > ʻ &ʻ ʻQ!ʻ]ʻ Qʻ Bʻ ' #ʻ (/, # !ʻ p ʻ c* ʻ "# #ʻ #!ʻ F. .Fʻ . ʻ I ʻ ʻ .N N5

:D>6;: ' > :' C BB 6 ' G:' 8HG > :B' :H ' C B:' ' G:' G B' K@:C>8B:' G:' G:>' G: :' F>B' 6 ' B ' BC CG 6 '>B' 'F>B' F: ' ; F6 ' >6;'@:C>8B:' G:' C 8 ;' G:6' H C8 :' ::6' ;' ' G B' G B:B L^ G:' >6 ?> B' 'FG CG' / : HG 6' 86;' 6' G:' C 86 9'> :' : G: ' B8CG' >B' 6 F' 6G>@ ' ^' ' FG: :' 6 ' B8CG' G:9' > :' G:' ;:6 `:6B' 'G : ' > G: ' G>6' C ;: ' C ?> :B' >6;' C 86 :B

G:' : 9' ' BB9 >' B' >' >A 8 :' G:?:' F GZ' G:' >6C :6 ' F : B ^' F 6 ' ' G:' 6;: 6 :6:BB' ' G: ' : >HG C>' : ? 6 9 ' ' B' G F:A: ' 86C: P > 6 ' 6' ?>69' C>B:B' FG: G: ' G:' H > B:' FG CG' G:9' @:B F'8H 6' BB9 >' B' :> 9' 6 :6;:;' ' G:'C 86 9' G: :' C> :;' G9' G> '6>?:' ' FG: G: ' ' ; :B' 6 ' > G: ' >HH 9' ' G:' > 8A >' >C ' > :>;9' ;:BC @:;' FG CG' B' ? :'H H: 9' : ?:;' G> ;::>' '$>@9 6 >' > 8 > 9' $>@9 6 >' B' A: 9' ?8CG' ? :' : :' G>6' ? B ' H> B' ' BB9 >' FG CG' @: 6 ' : :A> :;' >@ A:' G:' C 8 B:B' ' G:' A: B' >6;' H BB:BB 6 ' >' B> 6:' >6;' 9HB : 8B' B ' :6;B' 6' G:' >@B:6C:' ' >' B8 C :6 ' F> : ' B8HH 9 ' ' @:C ?:' >' @> :' >6;' > ;' ;:B: ' ::B' > :' BC>6 □' 6' @ G' : 6B' :DC:H ' > 6 ' G:' A: 'C 8 B:B4 @8 ' 6' BB9 >' :A:6' >BB' > B' > : ' G:' B '@8 B ' 'BH 6 4 >6;' G:' H > 6B ' FG CG' ' >' :F' F:: B' G>A:' @::6' C> H: :;' F G' G:' :6;: :B ' A: ;8 :' >6;' G C 9' B :F6' F G' G:' @ G :B ' >6;' A: :B ' F: B ^' @:C ?:' >B' G:' B8?? : ' >;A>6C:B

N :: @ !' #&' & ' R %' >:2F!' ' IT '" +":@A ' aD ' I!' C # GB#"@:F#!'@ ">,2 >#!'@ F'?,F']' IU'" 2 E#' >: >M' TT 5TTT' ' @##># , ' 9&' A& D ' J'" = = ' @:4!' ' # "A>' 2#": 4A ' "' # 4B: 2B# aa ' J!' 34 "A@'" >>:> '#A2B,F' :>M@:F' "A>' ? ,F5' N A #' >4B, @: "E' F F' 2'" >#4@ :>' @## @# M2 >' :2=' >#2 2"@= @!' @ F' 2 E# B#!' @' @" D>' 2 ' A@:@a!' 2 ' "A>' 2#": 4A' @#' #" ,' 244B:: M' / & "A>' >:# @ ' 1B, ' , ' 9&' A& D ' & D2, ' ' ' I !' Uss!' * ' K' RK!' ?A2' # >@O# >>, M,E' 2 ' "A>' # #"@">=> '" >a@4",E' D>:"# "A>' N ,2?>:E' @#"B:>#P' / ' ' ":B"A F"@#K' 2 ' 4#2K . K"@= @ I' I K

9: F H> CG: ; >6; > ? B G: @ :BB : G 6 B
> : ? : :?> >@ : G>6 G: B 6 ; : :6C:
@: F::6 G: >HH:> >6C: < G: B>?: >C 6 BB9 >
> ; : :6 B:>B 6B G: 9:> 0 G> > 6: ?:
B > > ;:6 F 6 <F G @ >6 G8:B >6; G:>A9
F G 8D8 >6 H>B 8 : h6 FG CG G: ? B 68?: 8B
C B C>6 BC> C: 9 ?> : >69 B:6B @ : ?H :BB 6 >
>6 G: B >6 >@B 8 : F>B : G 8 >6; HH :BB A:
? B B : 9 #
F: B:: G: C>8B: G B C8 8B C 6 >B F:
BG> 6; 6 G: H ;8C A: 78> :B : B
FG: :A: G: : B B8 C :6 <? B 8 : > F G: W
; BH >9 6 G: ?B: A:B C ?@ 6: ; F G G: >C
> :>;9 6 C: ; G> G: >C 8> B8HH 9 F> : B
;: C :6 H:> 6 :6: > 9 F: ?>9 B>9 F G 8 G
>B F>B B> ; @9 &: ; 8B ? : G>6 F G 8B>6; 9:> B
> (G> K @8 : > 6 > B 6 BB9 > L2 >6;
F> : B @: B8HH : ; 6 >; :78> : 78>6 9 G:
G B 9 B ? 8B @: ; : A: ; ? G: A: B 6 ? B
H> B BB9 > G: : > : CC>B 6> > 6B ;8 6 G:
F 6 : >6; 6 ; 6> 9 9:> B :78:6 BG F: B 6
:> 9 BH 6 G: ;oH:6;>6C: Q G: H :B:6 6P
G>@ >6 B @ G H>B 8 : >6; > 6 B 6 G:B:
G: : B BC> C: 9 >69 > 6 4 ^ >6; G 8 G G:
B B B H ;8C A: G> FG: :A: G: >6; B C8 P
A> : ; ; C HB > : C ? ? 6 9 @ > 6: ; @9 ?:>6B
G: BH 6 > 6B FG : : B:FG: : 6> 8 : > 6C:
BH 6 >6: 8B 9 @:B G: B: 6 A: ;8 : G: CG:B

: / @E@:$ 42 #"@ ",E @,,BF># "2 =@:O# # = ,@:,E 2 "A> ":@4" "A>
"A> ?2 F>: B, G>@B"E 2 "A> # : M D 4 "E 2 =:BF ;C
,2?>:# "A> 42B ":E @" "A> 22" 2 # @ 4 +24 > X!D2,'aD R ! R K
"A> + @: ;A : ! / @E@:F! A
,(J ! R ! I! 32 K : 4A ! $! D2, R
2" 4># "A> #@=> >@"B:># "A> C >:2F! IT 5E
42B ":E >@: 7>:OBO ;* ! M # # * ' &
D2, H URK @ "@ $2 ># :>5 H ; / @E@:F! B" #B :@! CJT

6;'9:'6'B 6:';:B'B86 ?:'> A:' G>6'@> :6P 6:BB' B' BH :>;' A:' G:'BC:6:4 G:'C HB' H:6'>6;' > :' > G: :;' 64 K' G:' >BB' F G: :G' G:' F:' >;: G4L'< G:';: C> :'G: @> :' ' G:'H>6B'BG 6 B' @>C '>6;'; B>HH:> B4 > '> 86;' 8 6B' '>'86 ?' ;8'B >F C 8 4 6 G 6'C 6 68:B' ' A:'@8'FG>' B' C > B:';9'>6;'B>H :BB4' >6;' B' G:' >6;' FG CG' F>B' > :9'>6' ;:6'@:C ?:B'>';:B:

>';: :6'F 8;'@:' G:'>BH:C' ' G:' : 6' F: :'>';8:'8B:'?>;:' ' G>'>@86;>6'F> :'B8HH 9 ('>C 8> 9' ? B'>A BG' 6' G:'B8??: ?:' F 6' ' G:'?: 6' ' G:'B6 FB^ (FG CG' 6> 8 :' G>B' H P A;:;' 6' G:' F' :>'%:B H >? >6' A: B'>6;' G: ' @8> :B' ' >H;' B' G:' >' ' G:' F'?>6P B :>?B' 6' G: ' 8HH:' C 8 B:' G>' @9' CG>66:B' ;: A:;' ?' G:?'F G' G:' G:H'H: G>HB' ';>?B' G F6'>C BB' G:?'>'C: >6' 6 : A>B' G:' F>:' ? G'@:' :;' '>? B'>69'H>' ' G:' 6 : A:6 6 ' C 86 9'>6;'>' B8HH 9' :H'8H';8 6' G:' FG :' 9:>' ' :A:6' F G 8'F B' ' G B' ?> 6 8;:' @9'G9; >8 C'?>CG 6:B' '>'A: 9'B ?H:'C 6B 8C 6' G:' : A 6' 8;' ? G'@:' >B:;' ?' G:' :>' B :>?B'>6;' G: '> 8:6 B' 6'B8 C :6'78>6 9' ' ?>6>6'>'@ >;'@: ' 6' : G:'B ;:' ' G:' A: ' C 8 B:B' 6'H: H: 8>'A: ;8 :' 6C :6 9'F:' 6 F' G>' :C 8 B:'F>B'G>;' '@ G' ' G:B:'B9B :?B' 6' G:' >C'@: F::6' G:' B'>6;' G:' HH:' p>@' FG CG' B' G:' 6 9'H>' ' BB9 >' G>' G>B' @::6' ? 68 : 9' :D>? 6:;'>:' ; B 6C' :?>6BZ' '>' :>B' 6:' BB9 >6' C>6>' FG: : 6' ?8CG' 6 :6? 9'>6;' G9; >8 C'B ' B' :DG @ :;' G:' F' @: 6'C> :;' G 8 G' G:' ? :' : :A> :;' 86;' @9' 866: 6

' * ' +' ' ++ -["

>6;' G:' C>6>' :;' ' G ' ? :B' C 6 > 9' ' G:'
6> 8 >' C 8 B:' ' :A: 9' B :>?' 6' G:' ; B C ^'
8 C:B' >6;' ;>?B' C8 ' B ?: ?:B' 6' G:' B ;' C '
: 8 > :;' G:' B8HH 9' ' G:' 8 ;' >' ; : :6 'B:>B 6B'
>6;' :6>@ :;' G:' 6> A:B' ' ?> :' G:' ? B ':C 6 ? C>'
>HH C> 6' ' G:' :>' : B: ' G:' 8B:' ' G:'
G>6; BF H:' F>B' > B ' C: > 6 9' 6 F6 'B 6C:' ' B' ?:6P
6:;' @9' &: ; 8B ' >6;' :A:6' :H :B:6 :;' 8H 6'
G:' BC8 H 8 :B' ': 9' H @>@ 9' G: ' ? :' : >@ > :'
?>CG 6:B' F: :' :F B:' :?P
H 9:; '86 :BB' G:' :6: >' H :P
A> :6C9' ' C>6> B' B8H: B:;:;'
G: ' 6:C:BB 9' ' B' C: > 6'
G>' A: ' F ;:' ; B C B' 6 F'
;:H:6;>6' 'H ;8C A:'H F: '
FG 9' 6' G:' BH 6 ' > 6B' >6;'
C 6B:78:6 9'78 :' 6C>H>@ :' ' B8B > 6 6 ' >' B: :;'
H H8 > 6' G: :' ?8B' G>A:' @::6' ?> 6 > 6:;' 6'
BB9 >6' ?:B'B ?:': :C A:'F> : B9B :?' FG: :@9'
: 6B' G>' >' H :B:6' F G' ; C8 9' 8 6 BG' >' :F'
? 6 GB< B8@B B :6C:' ' G:' F>6;: 6 ' >@' @:B'
F: :' :6>@ :;' ' B8HH 9' ' BC :B' ' H H8 8B' C :B'
B8 C :6' ; ' G: ' C 6B8?H 6 ^
' 0 :' G>A:' 6 ' ?8CG' >CC 86' ' G:' H ;8C B' '
BB9 >' H: ' 6' :> 9' ?:B' B' ;> :B' F: :' '
B?>' :H8 :' @: 6 ' :> 9' 6 : ' ' G B:' '
$>@9 6 ^' ' :F'>' :F' A:B' 6' H >C:B # >6;' B ?:'
BH C9' BG 8@B ^' FG CG' C>66 ' @:' ;:6 :;' F G' >69

H' +>>' "A>' @442B "' 2 ' "A>#>' "A2:O#' ' ! ' UI ' S
M D>' GE' @ "@ '$2 >#' '"A>' C J H' , E' # >@O# 2' "A>' ##E: @'
' ' %' " % '! D2,' aD' F@">#' @# B#>F' 4A > ,E' 2:' @"> M'
' I !' II ' 2= @:>' /@E@:F' M#@ F' 2"A>:'@ =@,#' /9 &'A &'
A ' ' $!' D2,' ' a 'U!' #BG' K
' !' I ' # ' A@,2 "#' , 's&'A&'
' >:2F2"B# 4@,,# "' * c 7 ' D ' R K
'IT K'H H' +":@G' aD ' I!']' U!' #BG' 8
%' +>>' /@E@:F' A ' ' : J .> ' &' 'Q!']' I

C: > 6 9' B' C: :>' C HB' F: :' ;' >6;' ?>9' H: G>HB'@:' : > ;:;'>B' 6C 8;:;' 6' G:'C @?:6;> 6B' @:B F:;' @9' &: ; 8B' >6;' >@ '< 6' @:' > 6' ' @:' %:B H >? >6' : 6' @:' C 86 9' F>B' H> P C8 > 9' ;: C:6' 6' ::B' > :' >C B' F 6' 6 @ 6' @8' F ?F ;' >6;' B ? >' F' B@ 8@B ^' FG :' G: B' F: :' >@B 8:9' F G 8':G: ' :' ' @8BG ^' G:' 6 9' H ;8C B' C ' BB9 >' FG CG' >C78 :;' B8CG' 6 :' >B' ' @:' C> :;' @9' B' 6>?:' F: :' B' B ' >6;' B' C 6' ::B' G:' B ' >CC ;6' ' 69' F>B' G:' H ;8C:' ' >' > :' 6;' 'B F ?' 6 ' 86;' :B:FG: :^' G:' C 6' ::B' @>6:;' >' A: 9' :>' C: :@ 9' ' 6 9' F: :' G:9' >;? :;' ' G: ' H: H: 8>' ? > :' >6;' G: ' ;: C 8B' ; 8 4^ @8' ' F>B' @: :A:;' G>' G:' 8 ' FG CG' G:9' @ :' F>B'>6'86 > 6' :?:;9'> > 6B'H B 6B2#' 8?: 8B' > :?H B' F: :' ?>;:' ' 6> 8 > `:' G:' ::6' G: ' C 86 :B4' @8' 8H' ' G:' ?:' FG:6' 69' F :' :A: 9' B8CG' > :?H' G>;' > :;' >6;' G:' C 6' FGB' B 'C 6 6:;' ' BB9 >' : B>'>6;'%:;>^ ' B'6 ' '@:' ?> 6:;' G>' G:' A: :>@ :' H P ;8C B' ' BB9 >' F: :' C 6 6:;' F G 6' G:' 6> F' C ?H>BB' FG CG' G:' >6C:6' 6 C:B' ? G' B::?'

H' ,4:2F' 'IT ' :' /@E@:F' :>L =@:O#' "A@'" "A>'O F# 2' M:@ ' => L " 2 >F' GE' >:2F2"B#!' #>#@=>!' = ,,>"!' ?A>@"!' @ F' G@:,>E!' #" ,,' 42 #" "B">' N'"A>' : 4 @,' @ E 4B,"B:@,' ' :2FB4>' 2' ##E: @ P' /A $!' D2,' ' 'U K' "' +":@G' a" ' I!']' IU N .> ' ' &' 'Q!']' I ' G F' ' J!']' Q' +>>' "A>' @##@M>' ^B2" F' @"' ,> M"A' ' 2"> ' @M>' mJ ' %, E' # >@O# 2' N ##E: @' # ,Ơ P' @# @' :2 >:' F:>## 2:' ?2=> ' N ##E: @' "@=>' G2=AE42' @FAB4' '= # 4>F =B# P' BB&' A&' a ' K

Ć A F' a ' Ć A F' a ' ' N F2:>' :@ 4>,, '" 2, 2:B=' ^B2^B>!' ^B' ":@ # '" ' D>#">#B @' 42 F "B# @:4>"^B>'@B =@5' , B=' 2a @' :G2:' #@' 2= GB# /2: # 2= >:@' >#"!' @, # 4@F> " GB#!' @, # @"B:>#4> " GB#!' @, # D>:G' #BG5' @#4> " GB# P ' G F' I'#' ' N @,B# ##E: @!' ^B@=' @, ' >F 4@=' D24@ "!' D> > # =>F>"B: P' 2= @:>' - :M' /C &' ' I J' +2, ' UT!' 32 <' ' &' A&' a ' ' aD ' ' +2, ' I' '4

6; C> :' G B:' 6 C: J> :' C>B8> ' >6;' ' B' :A ; :6 '
G>' G:9' > :' 6C ?H : :4 6 ' F ' >' J8B ' 6 6' @:'
@ > 6: ;' G:' :>' CG> >C : ' ' G:' : 6 ' 86 :BB'
F:' > :' 6 ' >CC 86 ' B8CG' ' G:' H :B:6 ' H ;8C B' >B'
?>9' G:' :>B 6>@ 9' B8HH B: ;' ' G:' 6; :6 8B '
F ' B: 6 ' >B ; :' >' :F' H >6 B' 'BH:C >' ?H >6C:'
' ?>6 ' G:' C8 A> 6' ' FG CG' ?>9' G>A:' @: :6' 6P
;8C: ;' B8CG' >B' G>C @' C:' 6; >6' C 6' >6;'
C 6 ' F:' ?>9' > 9' B>9' G>' BB9 >' G>B' 6 ' :D CB'
>6;' G>' G:' : :B ' BG 8@B ' >6;' A: : >@ :B' 6 F' 86;'
F G 6' G: ' ? B' > :' G: ' B>?:' 6' > ' H @>@ 9' >B'
:F' G: :' >6C :6 9' 6' ;: ' ' C ?H : :' 8 '
B8 A:9 ' F:' ?>9' G: : :' H C: :;' ' 678 :' FG>'
> :' G: ' CG : ' A: : >@ :' H ;8C B' ' G:' : 6' >' G:'
H :B:6 ' ?: ' U

6' G:' B 8 G' G:' ;> : H> ?' FB' F: ' >B' > ' >B'
6>G' 6' G:' 8HG > :B' >6;' : C ' 6' G:' B'
@ A:' G>' > 8; :' ' >6 8 BG:B ' >6;' C:>B:B' ' A:'
8 ' > : G: ' >@ 8 ' G:' J86C 6' ' G:' 1G>@ 8 '
F G' G:' 6:' B :>?' >6;' G:' :BB: ' p>@' A G' G:'
G: ^' G:' 86H ;8C A:' : : ' G F :A: ' FG CG' G:'
BB9 >6B' 8B: ;' ' @8 ; 6 ' H8 H B:B < F ' F' >6;'
> > 6' >' C 6B ; : >@ :' B `:' ' G:' A: 9' : ; :' ' G:'
? 86 > 6B ^' ' G: ' ?@: ' : :B' G:' H 6C H>' > :'
G:' B9C>? :' >6;' G:' :6 > ' H >6: ' FG CG' > :' C ? ? 6'
6' G:' 6 G' 4 GCJ > ' FG CG' >@ 86; B' >@ 8 ' %> ; 6' ^
NFG: :' ' 9 : ;B' > 68 B' >6;' G:' > :' H ;8C '
?>66>S ' >6;' FG CG' B' > B ' 86;' 6' G:' 6J> ' >6;'
G; : ` `' >6 :B4#' G:' B A: ' H H > ' F G CG' :6

' 6 '!' # ' # !' N >GBA:!' K ' ' ' !'
' ' S' ", [4' >9> ; ' A ' ' ' 2= @:>' A # G % # '
': $!' A ' ' H' \ - . %' K !' ' I
' +":@G2!' aD ' I!']' Q' ' , ' BB&' A&' Ć /@E@:F!' A ' ' : ' !'
a ' >&' ' Q ' @ F' I
S A>@ 4E!' I' #' 2' ' /@E @:F!' I' @' 4'
- / '

-[\ ‘H5 *‘ +* ‘ ‘ * ‘ ‘

6 :B‘ G: @>6 B‘ ‘ G:‘ B :>?B4#‘ G:‘B8?>C‘ F@ CG‘ B‘ 86;‘ 6‘ G:‘ HH: ‘ 8HG > :B4#‘ >6;‘ G:‘ F> 68 ‘ FG CG‘ B‘ 6 ‘ 86C ?? 6‘ @: F::6‘ G:‘ ‘ ‘ p> B‘ >6;‘ G:‘ 8 9 6 ‘ >6 :B‘ ‘G B=‘ ‘ 8 ::B‘ G:‘ ? B‘ ?H >6‘ > :‘ G:‘ >6 :‘ :? 6‘H ?: >6> :‘ >H C ‘ A:‘ A 6:‘ ‘ ?8 @: 9‘ >6;‘ H B >CG 68 ‘ G:‘ H B >CG 68 ‘ FB‘ F ;‘ 6‘ G:‘ 6 G: 6‘ ? 86P > 6B‘ :BH:C > 9‘ @: F::6‘ >G‘ >6;‘ > @: ^‘ G:‘ ‘ B‘ C8 A> :;‘ F G‘ ?8CG‘ C> :‘ 6‘ G:‘ 6J> ^‘ G:‘ A 6:‘ B‘ > B ‘ F6‘ 6‘ G> ‘ : 6 < @8 ‘ @:> B‘ @: : ‘ 6‘ G:‘ B B‘ ‘ G:‘ G B‘ >@ A:‘ >G‘ >6;‘ %> ; 6 ^‘ >6 :B‘ :? 6B‘ >6;‘ H ?: >6> :B‘ @: 6 ‘ ‘ G:‘ B 8 G: 6‘ H> ‘ ‘ G:‘ C 86 9‘ FG: :‘ ‘ A: :B‘ 6‘ $>@9 6 > ^‘ G:‘ H A:‘ C G:B‘ G:‘ >6 B‘ ‘ p> B‘ 6‘ H >C:B < $:B ;:B‘ G:B:‘ > :‘ 8 B‘ BB9 >‘ G>B‘ H:> B‘ >HH :B‘ H 8?B‘ CG: :B‘ F ;‘ >6;‘ C8 A> :;‘ 78 6C:B‘ >H C B‘ ?: 6B‘ >6;‘ @: B

G:‘ C ?? 6:B‘ BG 8@B‘ > :‘ >‘ 6;‘ ‘ F ?F ; (‘ G:‘ 5 !‘ ‘ / :6 HG 6 (FG CG‘ FB‘ ‘ ?8CG‘ ‘ G:‘ H > 6‘ :D :6; 6 ‘ B 8 G‘ ‘ G:‘ 1G>@ 8 ^ (‘ >6;‘ G:‘ >?> B ‘ ::6‘ ?9 :B‘ >6;‘ :>6;: B‘ F G‘ G: ‘ B9‘ @ BB ?B‘ C G:‘ G:‘ @>6 B‘ ‘ B ?:‘ ‘ G:

%‘ A># >E!‘ ‘ I
H‘ #?2:"A!‘ ' !‘ ‘ U
‘ / @E@:F!‘ A ‘ ‘ : ' !‘
‘ JJ
< 24240!‘ G % # ‘ ‘ ‘ !‘
D2,‘ ‘ ‘ IQ ‘ @ F‘ IJ
‘ "‘ # M:2? ‘ 2 ‘ ">::@4>#!‘ , O>‘ "A>‘
D >‘ ‘ +? "b>:,@ F‘ @ F‘ 2 ‘ "A>‘
A@B,"# 2 ‘ "A>‘ * A >‘ / @E@:F!‘ A &‘
‘ : ' !‘ ‘ QU!‘ QQ K‘ >L
GBA:‘ # >@O# 2 ‘ "A>‘ + @:‘ M# @#‘ ‘
M:>@"‘ :>^B>#"‘ p ‘ N‘ 2:"‘ :>4A>:4Ao# P‘
‘ K ' ‘ ‘) !‘ ‘ IQ K
M / E@:F!‘ I‘ # ‘ 4 ‘ A>‘ D >‘ # @,#2‘
4B," D@">F‘ >@:‘ 7>:OBO ‘ 4A!‘ * J
!‘ D2,‘ ‘ ‘ Q K

‘ 24240!‘ D2,‘ ‘ ‘ IQ "‘ >GBA:!‘
‘ I ‘ A>‘ D >‘ ?@#‘ @"‘ 2 >‘ " =>‘
4B," D@">F‘ @#‘ ,2?‘ F2? ‘ @#‘ "A>‘ 42=L
=> 4>=> "‘ 2 ‘ "A>‘ @,,BD B= ‘ +>>‘
= = ‘ @: ‘ aa D‘ ‘ @ F‘ J
%‘ / @E@:F!‘ ‘ UR "‘ / 2 "B#!‘ 6 ‘
% ‘ ‘ " !‘ ‘ Q "‘ * 4A!‘ * J
!‘ D2,‘ ‘ ‘ J
< / @E@:F!‘ A ‘ ‘ ‘) ‘
$!‘ D2,‘ ,‘ ‘ U ‘ "‘ A ‘ ‘
: ' !‘ ‘ I !‘ I
‘ #?2:"A!‘ ‘ ‘ ‘ %@‘
‘ ‘ ‘ !‘ ‘ RJ ‘ 0 2:=L
?22F‘ @,:2B F# @,#2‘ >" :‘ $B=> ,@!‘ ‘
"A>‘ 7>:OBO‘ F #": 4" ‘ * 4A!‘ * J
!‘ D2,‘ ‘ ‘ UI K

B?> : ' B :>?B @: F::6 G:' B >6;2 % 86 '
p> B4^>6;'>'BG 8@ ' :78:6' CC8 :6C:' B G:'
78 C:'H>6 # ' :; @ :' A: : >@ :B G: :' B :>'
>@86;>6C:' 8 :B# >6;' C>H: B# F'F ;4 FG :'
H:>B'@:>6B' 6 6B'BH 6>CG'C8C8?@: B'>6;' :6 B'>:'
C8 A> :;'B8CC:BB 8 9< G:'C> @N' ' / %
?8B'>B'@:' ?:6 6:;'>B'>? 6' G:' > :'H ;8C B'
' G B' : 6^
' F>B' 6 C:;'>@ A:' G>' ?>66>' B' > G: :;' 6'
BB9 >' ?' G:' ;F> ' > ' ' B >@86;>6' 6'
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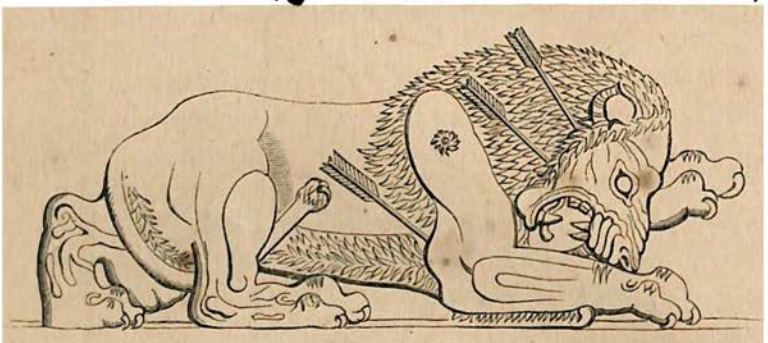
is of the maneless kind, and in general habits resembles the lion of Babylonia. The animal is comparatively rare in the eastern districts, being seldom found on the banks of the Tigris above Baghdad, and never above Kileh-Sherghat.[9] On the Euphrates



Assyrian Lion, from Nimrud.

it has been seen as high as Bir; and it is frequent on the banks of the Khabour, and in the Sinjar.[1] It has occasionally that remarkable peculiarity—so commonly represented on the sculptures—a short horny claw at the extremity of the tail in the middle of the ordinary tuft of hair.[2] The ibex or wild goat—also a favourite subject with the Assyrian sculptors—is frequent in Kurdistan, and moreover abounds on the highest ridges of the Abd-el-Aziz and the Sinjar, where it is approached with difficulty by the hunter.[3] The gazelle, wild-boar, wolf, jackal, fox, badger, porcupine, and hare, are common in the plains, and confined to no particular locality. Bears and deer are found on the skirts of the Kurdish hills.

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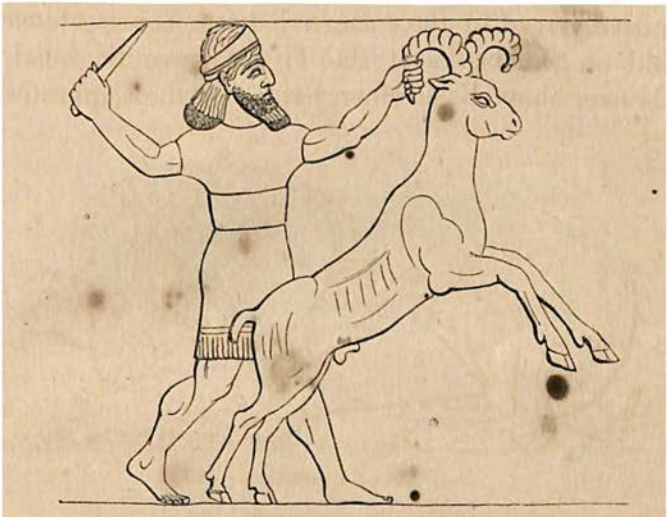
[9] Layard, *Nin. and its Remains*, vol. ii. p. 48.

[1] Ibid. l. s. c., note. For its frequency in old times see Amm. Marc. xviii. 7.

[2] Layard, pp. 428, 429.

[3] Layard, *Nineveh and its Remains*, p. 431. Compare *Nin. and Bab.* pp. 256 and 312.

The leopard, hyæna, lynx, and beaver are comparatively rare. The last-named animal, very un-



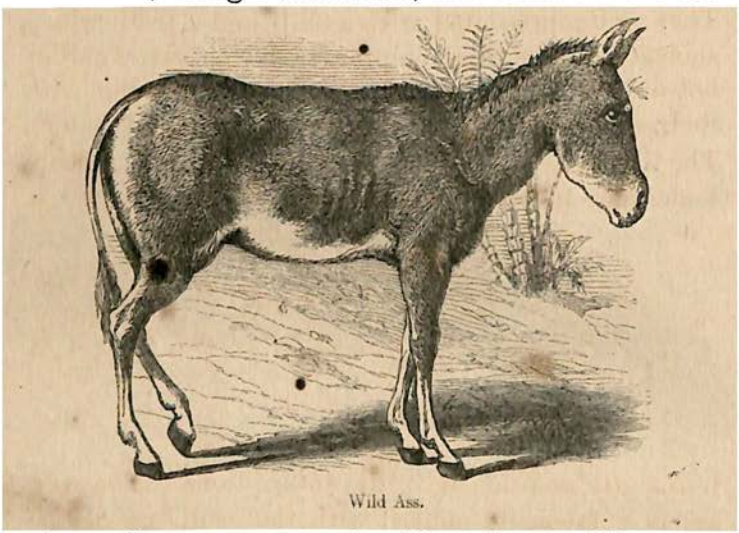
Ibex, or Wild-Goat, from Nimrud.

common in Southern Asia, was at one time found in large numbers on the Khabour; but in consequence of the value set upon its musk bag, it has been hunted almost to extermination, and is now very seldom seen. The Khabour beavers are said to be a different species from the American. Their tail is not large and broad, but sharp and pointed; nor do they build houses, or construct dams across the stream, but live in the banks, making themselves large chambers above the ordinary level of the floods, which are entered by holes beneath the water-line.[4]

The rarest of all the animals which are still found in Assyria, is the wild ass (*Equus hemionus*). Till the present generation of travellers, it was believed

[4] *Nin. and Bab.* pp. 296, 297. Beavers are also found in the Zohab river, a tributary of the Diyaleh.

to have disappeared altogether from the region, and to have "retired into the steppes of Mongolia and the deserts of Persia."[5] But a better acquaintance with the country between the rivers has shown, that wild asses, though uncommon, still inhabit the tract



Wild Ass.

where they were seen by Xenophon.[6] They are delicately made, in colour varying from a greyish-white in winter to a bright bay, approaching to pink, in the summer-time; they are said to be remarkably swift. It is impossible to take them when full grown; but the Arabs often capture the foals, and bring them up with milk in their tents. They then become very playful and docile; but it is found difficult to keep them alive; and they have never, apparently, been domesticated. The Arabs usually kill them and eat their flesh.[7]

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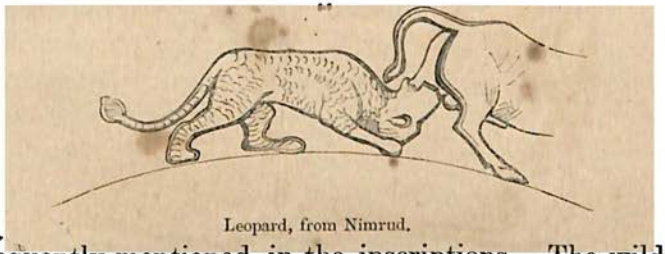
[5] Heeren's *Asiatic Nations*, vol. i. p. 132, E. T.

[6] *Anab.* i. 5, § 2. Xenophon speaks of them as numerous in his day. He calls them "the most common animal" for some distance below the Khabour.

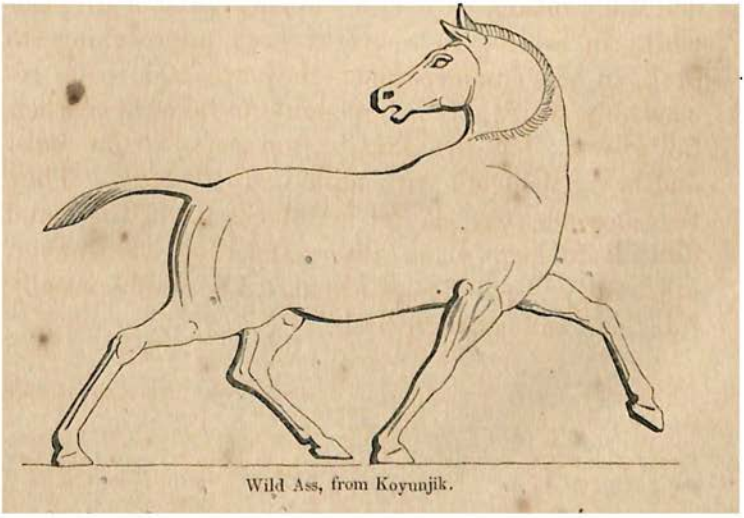
[7] Layard, *Nin. and its Remains*, vol. i. pp. 323, 324; *Nin. and Bab.* p. 270; Ainsworth, *Travels*, p. 77.

It is probable that all these animals, and some others, inhabited Assyria during the time of the Empire. Lions of two kinds, with and without manes, abound in the sculptures, the former, which do not now exist in Assyria, being the more common. They are represented with a skill and a truth which shows the Assyrian sculptor to have been familiar not only with their forms and proportions, but with their natural mode of life, their haunts, and habits. The leopard is far less often depicted, but appears sometimes in the ornamentation of utensils, and is



Leopard, from Nimrud.

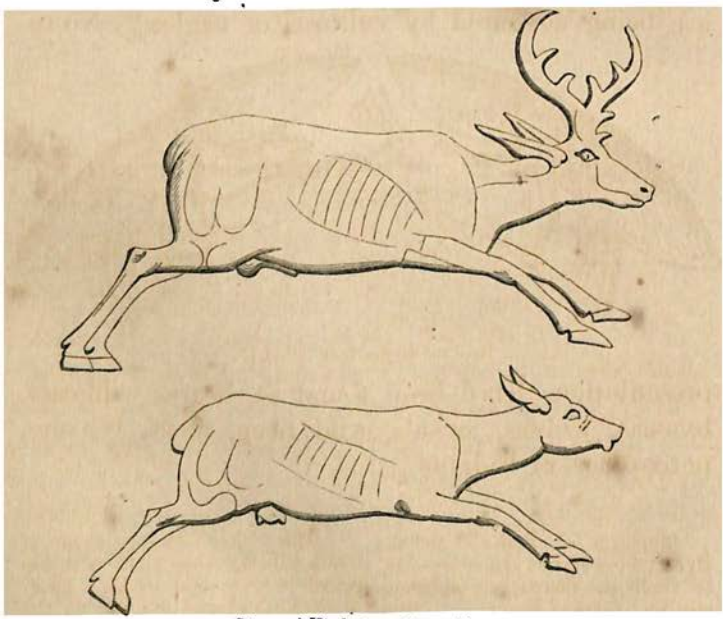
frequently mentioned in the inscriptions. The wild ass is a favourite subject with the sculptors of the later Empire, and is represented with great spirit,



Wild Ass, from Koyunjik.

though not with complete accuracy. The ears are too short, the head is too fine, the legs are not fine enough, and the form altogether approaches too nearly to the type of the horse. The deer, the gazelle, and the ibex, all occur frequently; and though the forms are to some extent conventional, they are not wanting in spirit. Deer are apparently of two kinds. That which is most commonly found appears to represent the grey deer, which is the only species existing at present within the confines of Assyria.[8] The other sort is more deli-

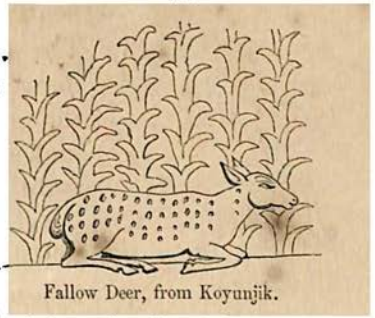
Gazelle, from Nimrud.



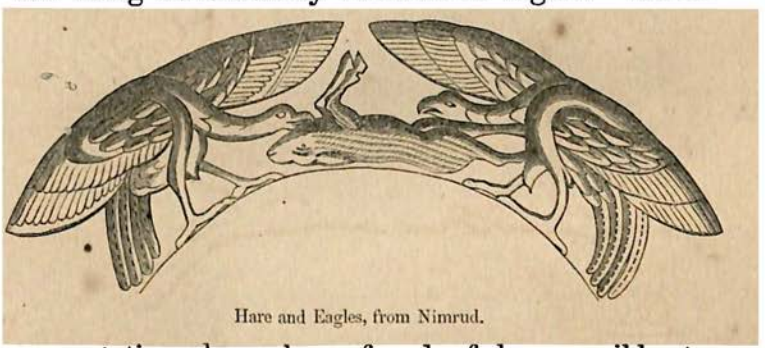
Stag and Hind, from Koyunjik.

[8] The deer which the army of Julian found in such numbers on the left bank of the Euphrates, a little above Anah, were probably of this species. (Amm. Marc. xxiv. 1.)

cate in shape, and spotted, seeming to represent the fallow deer, which is not now known in Assyria or the adjacent countries. It sometimes appears wild, lying among the reeds; sometimes tame, in the arms of a priest or of a winged figure. There is no representation in the sculptures of the wild boar; but a wild sow and pigs are given in one bas-relief,[9] sufficiently indicating the Assyrian acquaintance with this animal. Hares are often depicted, and with much truth; generally they are carried in the hands of men, but sometimes they are being devoured by vultures or eagles.[1] No representations have been found of bears, wild-cats, hyænas, wolves, jackals, wild-sheep, foxes, beavers, porcupines, or badgers.



Fallow Deer, from Koyunjik.



Hare and Eagles, from Nimrud.

[9] Supra, p. 50. Both this and the above representation of a fallow-deer, belong to the decorations of Sennacherib's palace at Koyunjik. They are given by Mr. Layard in his "Second Series" of the *Monuments of Nineveh*, pl. 12.

[1] This representation is on one of the beautiful bronze plates or dishes which were brought by Mr. Layard from Nimrud, and are now in the British Museum. The dish is represented in the *Monuments of Nineveh*, second series, pl. 82.

There is reason to believe that two other animals, which have now altogether disappeared from the country, inhabited at least some parts of Assyria during its flourishing period. One of these is the wild bull—often represented on the bas-reliefs as a beast of chase, and perhaps mentioned as such in the inscriptions.[2] This animal, which is sometimes depicted as engaged in a contest with the lion,[3] must have been of vast strength and boldness. It is often hunted by the king, and appears to have been considered nearly as noble an object of pursuit as the lion. We may presume, from the practice in the adjoining country, Palestine,[4] that the flesh was eaten as food.

Hare, from Khorsabad.

Chase of Wild Ox, from Nimrud.

The other animal, once indigenous, but which has now disappeared, was called by the Assyrians the

[2] See the *Inscription of Tiglath-Pileser I.*, pp. 53, 54, where both Sir H. Rawlinson and Dr. Hincks understand the wild-bull to be intended. Dr. Hincks reads the word used as *Rim*, which would clearly be identical with the Hebrew רְאֵם, or רִים, translated in our version "unicorn," and sometimes thought to be an antelope, but understood by Gesenius to designate "the wild buffalo." (See his *Lexicon* in voc.)

[3] Layard, *Monuments of Nineveh*, first series, pl. 46 and 48.

[4] Deut. xiv. 5.

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Assyrian artists are not happy in their delineation of the feathered tribe; and though several forms of birds are represented upon the sculptures of Sargon and elsewhere, there are but three which any writer has ventured to identify—the vulture, the ostrich, and the partridge. The vulture is commonly represented flying in the air, in attendance upon the march and the battle—sometimes devouring, as he flies, the entrails of one of Assyria's enemies. Occasionally he appears upon the battle-field, perched upon the bodies of the slain, and pecking at their eyes or their vitals.[8] The ostrich, which we know from Xenophon to have been a former inhabitant of the country on the left bank of the Euphrates,[9] but which has now retreated into the wilds of Arabia, occurs frequently upon cylinders, dresses, and utensils; sometimes stalking along apparently unconcerned; sometimes hastening at full speed, as if pursued by the hunter, and, agreeably to the description of Xenophon, using its wing for a sail.[10] The partridge is still more common than either of these. He is evidently sought as food We find him carried in

Vulture, from Nimrud.

Vulture feeding on Corpse (Koyunjik).

Ostrich, from a cylinder.

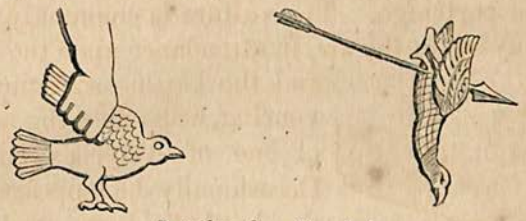
Ostrich, from Khorsabad.

[8] See especially the *Monuments of Nineveh*, second series, pl. 46.

[9] *Anab.* l. s. c.

[10] Ταῖς πτέρυξιν, ἅρασα, ὥσπερ ἱστίῳ, χρωμένη. *Anab.* i. 5, § 3.

the hand of sportsmen returning from the chace, or see him flying above their heads as they beat the coverts,[1] or finally observe him pierced by a successful shot, and in the act of falling a prey to his pursuers.[2]



Partridges, from Khorsabad.

The other birds represented upon the sculptures, though occasionally possessing some marked peculiarities of form or habit, have not yet been identified with any known species. They are commonly represented as haunting the fir-woods, and often as perched upon the trees.[3] One appears, in a sculpture of Sargon's, in the act of climbing the stem of a tree, like the nut-hatch or the woodpecker.[4] Another has a tail like a pheasant, but in other respects cannot be said to resemble that bird. The artist does not appear to aim at truth in these delineations, and it probably would be a waste of ingenuity to conjecture which species of bird he intended.

We have no direct evidence that bustards inhabited Mesopotamia in Assyrian times; but as they have certainly been abundant in that region from

[1] *Monuments of Nineveh*, second series, pl. 32.
[2] Botta, *Monumens de Ninive*, vol. ii. pl. 111.
[3] Ibid. Plates 109 to 112.
[4] Ibid. Pl. 110.

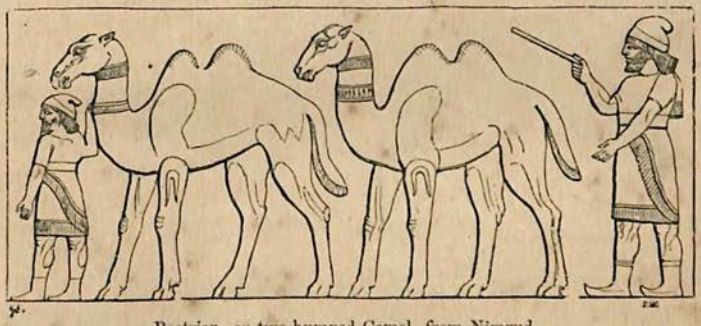
the time of Xenophon[5] to our own, there can be little doubt that they existed in some parts of Assyria during the Empire. Considering their size, their peculiar appearance, and the delicacy of their flesh, it is remarkable that the Assyrian remains furnish no trace of them. Perhaps, as they are extremely shy, they may have been comparatively rare in the country when the population was numerous, and when the greater portion of the tract between the rivers was brought under cultivation.

Assyrian Garden and Fish-pond (Koyunjik).

[5] *Anab.* l. s. c.

The fish most plentiful in Assyria are the same as in Babylonia,[6] namely, barbel and carp. They abound not only in the Tigris and Euphrates, but also in the lake of Khutaniyeh, and often grow to a great size.[7] Trout are found in the streams which run down from Zagros;[8] and there may be many other sorts which have not yet been observed. The sculptures represent all the waters, whether river, pond, or marsh, as full of fish;[9] but the forms are for the most part too conventional to admit of identification.

The domestic animals now found in Assyria are camels, horses, asses, mules, sheep, goats, oxen, cows, and dogs. The camels are of three colours—white, yellow, and dark brown or black.[1] They are probably all of the same species, though commonly distinguished into camels proper, and *delouls* or



Bactrian, or two-humped Camel, from Nimrud.

dromedaries; the latter differing from the others as the English race-horse from the cart-horse. The Bactrian or two-humped camel, though known to the ancient Assyrians,[2] is not now found in the country.

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[6] See above, p. 51.

[7] Chesney, *Euphrates Expedition*, vol. i. p. 108; Layard, *Nineveh and Babylon*, p. 325.

[8] Rich, *Kurdistan*, vol. i. p. 143.

[9] See Woodcut on opposite page.

[1] Layard, *Nineveh and Babylon*, p. 265.

[2] The Bactrian camel is, I believe, only represented on the famous

The horses are numerous, and of the best Arab blood. Small in stature, but of exquisite symmetry and wonderful powers of endurance, they are highly prized throughout the East,[3] and constitute the chief wealth of the wandering tribes who occupy the greater portion of Mesopotamia. The sheep and goats are also of good breeds, and produce wool of an excellent

Mesopotamian Sheep (after Layard).

quality.[4] The cows and oxen cannot be commended.[5] The dogs kept are chiefly greyhounds,[6] which are used to course the hare and the gazelle.

Loading a Camel (Koyunjik).

It is probable that in ancient times the animals domesticated by the Assyrians were not very different from these. The camel appears upon the monuments both as a beast of burthen and also as ridden in war, but only by the enemies of the Assyrians. The horse

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Black Obelisk, where it appears among the presents sent to the king from foreign countries.

[3] The young colts fetch prices varying from 30*l.* to 150*l.* A thousand pounds is no uncommon price for a well-known mare. Mr. Layard mentions a case where a Sheikh refused for a favourite mare no less a sum than 1200*l.* (*Nin. and Bab.* p. 327.)

[4] Chesney, *Euphrates Expedition*, vol. i. p. 108.

[5] Ibid. l. s. c.

[6] Layard, *Nineveh and Babylon*, p. 246.

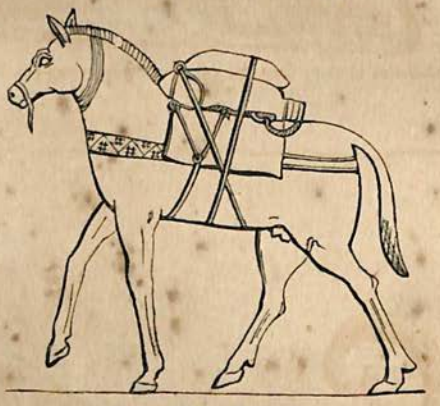
is used both for draught and for riding, but seems never degraded to ignoble purposes.[7] His breed is good, though he is not so finely or delicately made as the modern Arab. The head is small and well shaped, the nostrils large and high, the neck arched, but somewhat thick, the body compact, the loins strong, the legs moderately slender and sinewy. The ass is not found; but the mule appears, sometimes ridden by women, sometimes used as a beast of burthen, sometimes employed in drawing a cart.

Head of an Assyrian Horse (Koyunjik).

Assyrian Horse, from Nimrud.

[7] The horse draws chariots and not carts. He is never used as a beast of burthen.

Mule ridden by two women (Koyunjik).



Loaded Mule (Koyunjik).

Cart drawn by Mules (Koyunjik).

No. I.

Dog modelled in clay, from the palace of Asshur-bani-pal, Koyunjik.

No. II.

Dog in relief, on a clay tablet.

Cows, oxen, sheep, and goats are frequent; but they are foreign rather than Assyrian, since they only occur among the spoil taken from conquered countries. The dog is frequent on the later sculptures; and has been found modelled in clay, and also represented in relief on a clay tablet. Their character is that of a large mastiff or hound, and there is abundant evidence that they were employed in hunting.[8]

If the Assyrians domesticated any bird, it would seem to have been the duck. Models of the duck are common, and seem generally to have been used for weights.[9] The bird is ordinarily represented with its head turned upon its back, the attitude of the domestic duck when asleep. The Assyrians seem to have had artificial ponds or stews, which are always represented as full of fish, but the forms are conventional, as has been already observed.[1] Considering the size to which the carp and barbel actually grow at the present day, the ancient representations are smaller than might have been expected.

Assyrian Duck (Nimrud).

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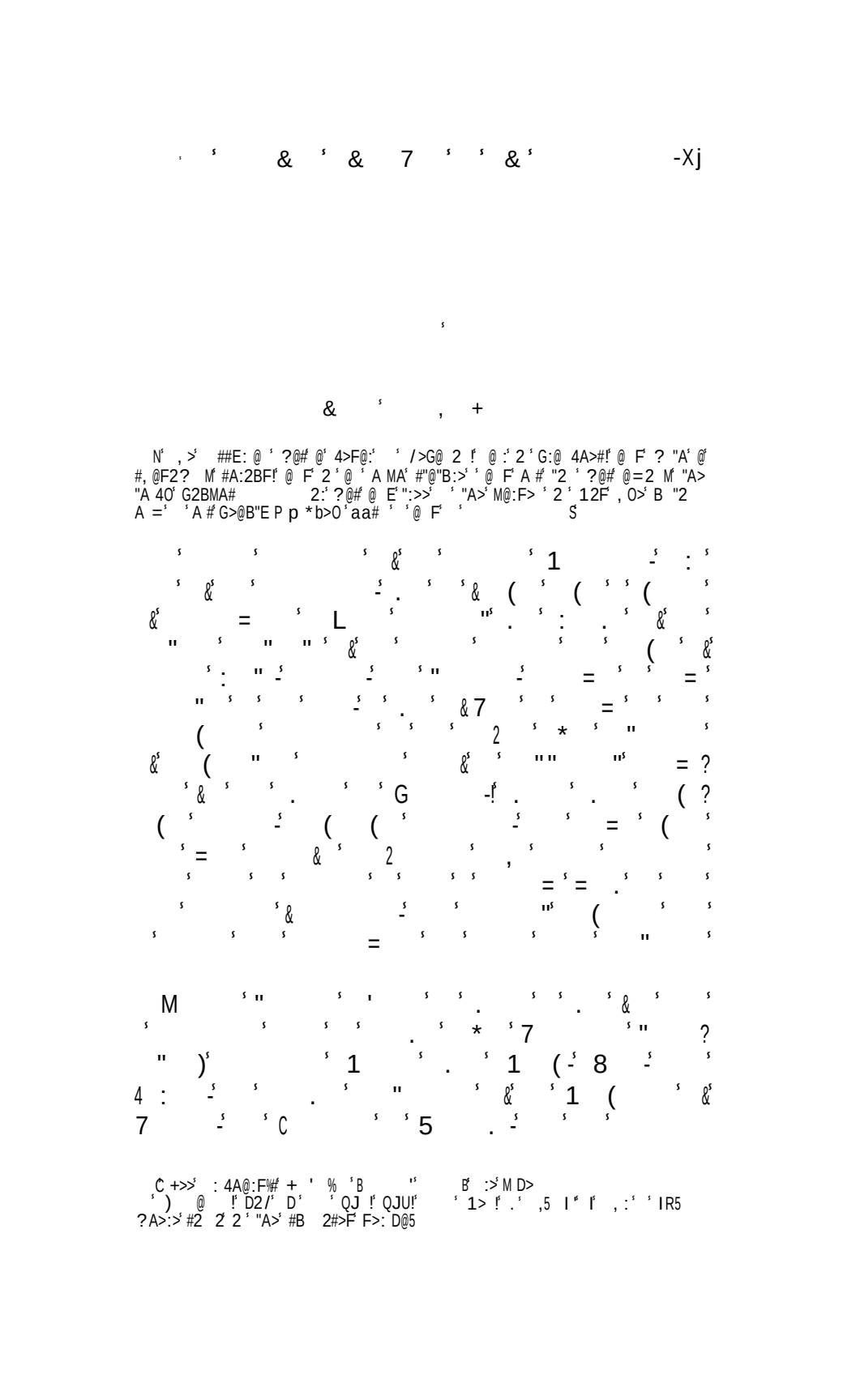
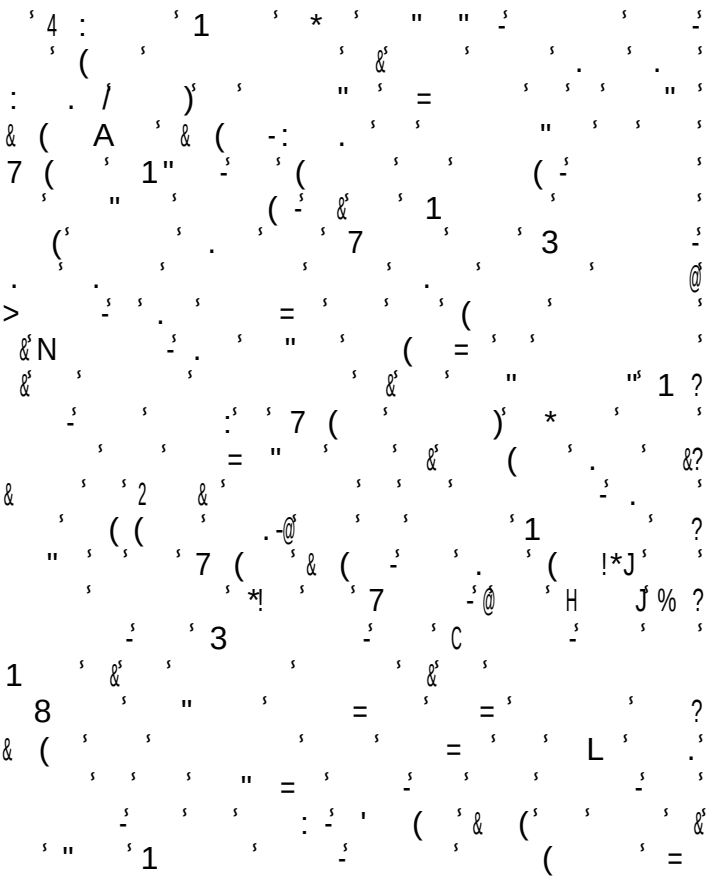
[8] Dogs are constantly represented as engaged in the chase upon the sculptures of Asshurbanipal (Sardanapalus III.). A number of his hounds were found modelled in clay at Koyunjik. They have each their name inscribed on them, which is always a term indicative of their hunting prowess. The woodcut (No. I.) on page 293 is taken from one of them.

[9] Layard, *Nin. and Bab.* pp. 600, 601.

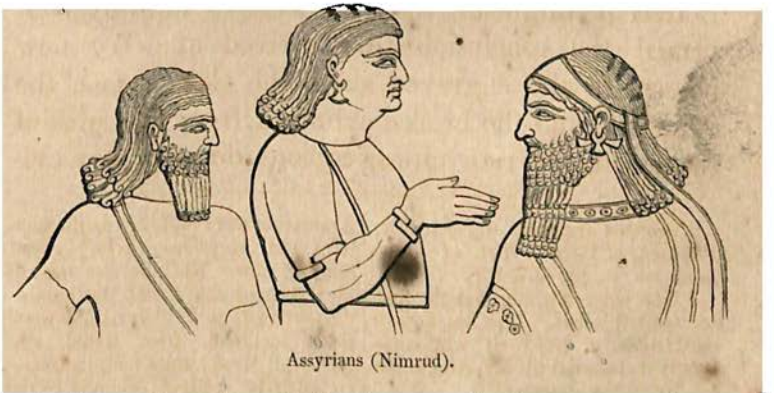
[1] Supra, p. 289.





dence of the character of the Assyrian language, and (so far as language is a proof) of the ethnic character of the race. It appears to be doubted by none, who have examined the evidence,[7] that the language of these records is Semitic. 'However imperfect the acquaintance which our best Oriental archæologists have as yet obtained with this ancient and difficult form of speech, its connexion with the later Babylonian, the Hebrew, and the Arabic does not seem to admit of a doubt.

Another curious confirmation of the ordinary belief is to be found in the physical characteristics of the people, as revealed to us by the sculptures. Few persons in any way familiar with these works of art can have failed to remark the striking resemblance to the Jewish physiognomy which is presented by the sculptured effigies of the Assyrians. The forehead straight but not high, the full brow, the eye large and almond-shaped, the aquiline nose, a little coarse

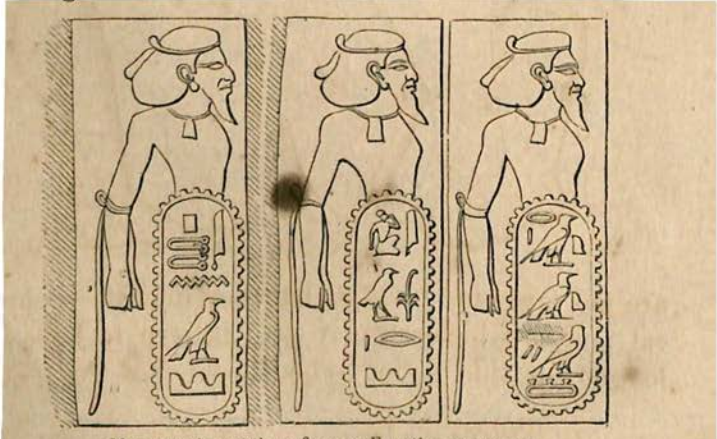


Assyrians (Nimrud).

at the end, and unduly depressed, the strong, firm, mouth, with lips somewhat over thick, the well-formed chin—best seen in the representations of eunuchs—

[7] See Bunsen's *Philosophy of History*, vol. iii. pp. 193-216; Max Müller, *Languages of the Seat of War*, p. 25, 2nd Ed.

the abundant hair and ample beard, both coloured as black,—all these recall the chief peculiarities of the Jew, more especially as he appears in southern countries. They are less like the traits of the Arab, though to them also they bear a considerable resemblance. Chateaubriand's description of the Bedouin—"la tête ovale, le front haut et arqué, le nez *aquilin*, les yeux *grands* et *coupés en amandes*, le régard humide et singulièrement doux"[8]—would serve in many respects equally well for a description of the physiognomy of the Assyrians, as they appear upon the monuments. The traits, in fact, are for the most part common to the Semitic race generally, and not distinctive of any particular subdivision of it. They are seen now alike in the Arab, the Jew, and the Chaldæan of Kurdistan; while anciently they not only characterised the Assyrians, but probably belonged also to the Phœnicians, the Syrians, and other minor Semitic races. It is evident, even from the mannered and conventional sculptures of Egypt, that the physiognomy was regarded as characteristic of the western Asiatic

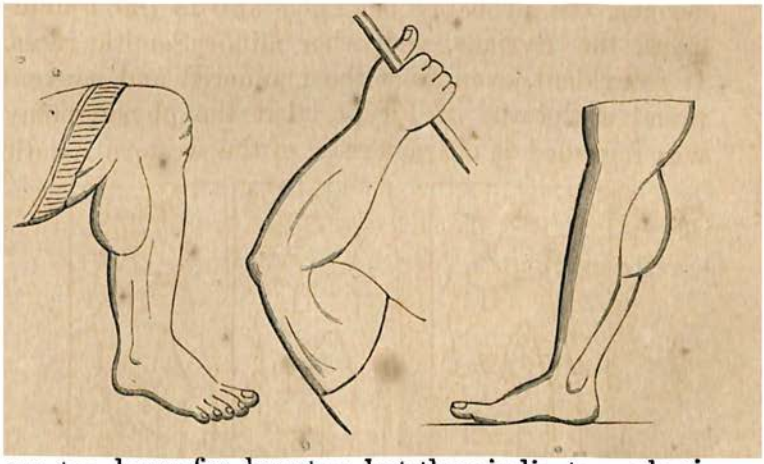


Mesopotamian captives, from an Egyptian monument.

[8] *Itinéraire*, vol. i. p. 421.

races. Three captives on the monuments of Amenophis III.,[9] represented as belonging to the Patana (people of Bashan ?), the Asuru (Assyrians), and the Karukamishi (people of Carchemish), present to us the same style of face, only slightly modified by Egyptian ideas.

While in face the Assyrians appear thus to have borne a most close resemblance to the Jews, in shape and make they are perhaps more nearly represented by their descendants, the Chaldæans of Kurdistan. While the Oriental Jew has a spare form and a weak muscular development, the Assyrian, like the modern Chaldæan,[1] is robust, broad-shouldered, and large-limbed. Nowhere have we a race represented to us monumentally of a stronger or more muscular type than the ancient Assyrian. The great brawny limbs



are too large for beauty; but they indicate a physical power, which we may well believe to have belonged to this nation—the Romans of Asia—the

[9] Lepsius, *Denkmaler*, Abtheil iii. Bl. 88.

[1] Rich, *Residence in Kurdistan*, vol. i. p. 278.

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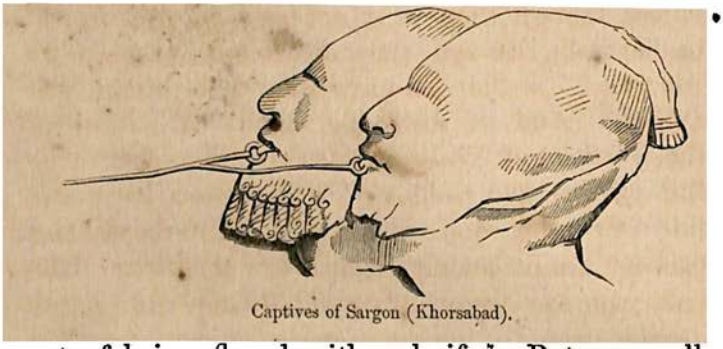
But we have no reason to believe that the nation was especially bloodthirsty or unfeeling. The mutilation of the slain — not by way of insult, but in proof of their slayer's prowess[4] — was indeed practised among them; but otherwise there is little indication of any barbarous — much less of any really cruel — usages. The Assyrian listens to the enemy who asks for quarter, he prefers making prisoners to slaying; he is very terrible in the battle and the assault, but afterwards he forgives and spares. Of course in some cases he makes exceptions. When a town has rebelled and been subdued, he impales some

Capture of a city (Nimrud).

[4] Probably a reward was given for heads, as has often been the fashion with Orientals. Sometimes scribes are represented as taking account of them. (See Layard, *Nin. and its Remains*, vol. ii. p. 184.)

of the most guilty;[5] and in two or three instances prisoners are represented[6] as led before the king by a rope fastened to a ring which passes through the under lip, while now and then one appears in the



Captives of Sargon (Khorsabad).

act of being flayed with a knife.[7] But, generally, captives are either released, or else transferred, without unnecessary suffering,[8] from their own country to some other portion of the empire. There seems even to be something of real tenderness in the treatment of captured women,

Captive Women in a cart (Nimrud).

[5] Mr. Layard has, I think, expressed himself too strongly when he says that on the capture of a town "an indiscriminate slaughter appears to have succeeded; and that the prisoners were either impaled or carried away as slaves." (*Nin. and its Remains*, vol. ii. p. 374.) It appears, by the inscriptions, that towns were frequently spared, and that the bulk of the inhabitants were generally left in the place.

[6] Botta, *Monument de Ninive*, Pl. 83 and 118.

[7] Botta, *Monument de Ninive*, vol. ii. Pl. 120; Layard, *Monuments of Nineveh*, Second Series, Pl. 47. Is it quite certain that these unfortunates are alive? The Persians and Scythians sometimes flayed men after death, in order to make use of their skins (Herod. iv. 64; v. 25).

[8] Captives are occasionally represented as urged onwards by blows, like tired cattle; and they are sometimes heavily fettered. But in each case the usage is exceptional.

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Uˢ G:ˢ C ˢ >; 6ˢ Bˢ B 6 9ˢ ?> :;ˢ @9ˢ G ˢ %>G ?: >6ˢ @: :ˢ G>ˢ 6ˢ G:ˢ B?> :ˢ ˢ G:ˢ F ˢ ? 86;Bˢ JJ B :ˢ % B8ˢ Bˢ Kˢ G:ˢ "),,""Sˢ ˢ * 6>G4Lˢ FG:6C:ˢ %:ˢ 6>?:ˢ 6ˢ X &ˢ G:ˢ ? Bˢ ?VS >6ˢ ˢ G:ˢ >6C :6ˢ >8 G :Bˢ Bˢ /:8 6ˢ N =? ˢ ˢ \ˢ M", -S C +>>ˢ / @E@:F%#ˢ * ˢ / $ ˢ F#ˢ B@ !ˢ D2,ˢ ˢ ˢ U ˢ > "A>:

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6' ' G B' G: 9 'FG CG' H >C: ;' G:' BB9 >6' C>H >' 6:> 9' >' G :' J86C 6' ' G:' HH: ' p>@' F G' G:' B>6 ;' ' >' FG :' G:' ;' H 6 6' F>B' ; BP H >C: ; '>6 ;' G:' 6>? :' ' 6:A:G' F>B' > >C : ;' A: 9' :6: > 9' 6' G B' C 86 9' ' G:' 8 6B' >' ? 8;

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>6; :8 ' >6;' G> ? 6 8B' >B' ' ? B ' @:' > F: ;' '
@:' F G' G:' :H B' ' G:' :: B' F:' G>A:' 6:A: G:P
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G: ' @ C B' ; B 6C ' C> ' :B' 4 >6;' G:B:' :B' > :'
86;' > >CG 6 ' ' ; B 6C ' C :B' 6' G:' G B C> '
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>6;' 1G B>@>;' B' 8 > 6> ' ' K G:' C 9' '
> 6 L' 1: : ? B' G>B' > B ' B' F6' >HH: > 6
8 ' i' # K' G:' C 9' ' G:' ;' L' F' G:' BB9P
>6' F : B' ; ' 6 ' C 6B ; : ' G:B:' H >C:B' ' G:' H> B'
' 6:A:G ' @8 ' BH:> ' ' G: ?' >B' ; B 6C ' >6;' B:H>

' : :' >9> ; <B' (' ' '
N ! " ' A ' ' JS' - \ [
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:2=' 7 2EB O!' @ F' @G2B" "?>,D>'
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B:H> > :‘ ?‘ 6:A:G‘ >6;‘ B ‘ > ‘ ?‘ ‘ G> ‘ G: :‘
F>B‘ ?‘ ‘ K‘>‘ :> ‘ C 9‘L‘ @: F: :6‘ G:? ^‘ 6;‘
G:‘ : >HG: B‘FG :‘ G:9‘ A:‘ G:‘6>? :‘ ‘ 8 >‘
‘ BB9 >‘ H: ‘ ‘ G:‘ C 86 9‘ >@ 8‘ G:‘ 6:‘
F6 ^‘ C> ‘ G:‘ : 6‘ FG CG‘ B8 86;B‘ G:‘ G: ‘@9‘
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C 86 9‘ B‘ C B: 9‘ :D>? 6: ; ‘ ‘ B‘ 86; ‘ 6 ‘ 6 9‘
G> ‘ G: :‘ > :‘ 6 ‘ B 6B‘ ‘ >69‘ C 6 68 8B‘ F6‘ A: ‘
G:‘ BH>C:‘ 6C 8; : ;‘ F G 6‘ G:‘ 8 ‘ B :B‘ ‘ ? 8; ‘
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G:‘ C 9‘ >B‘ 6‘ G: ‘ ; :C 6B ^‘ ‘ H: G>HB‘ 6: : ;‘
BC> C: 9‘ @:‘ >; ; : ; ‘ 86 :BB‘ ‘ ? : : ‘ G:‘ > 8? :6 ‘
; > A6‘ ?‘ ; 8B ‘ G> ‘ G:‘ 8 ‘ B :B‘ 6‘ 78:B 6‘
> :‘ 6 ‘ B ‘ H >C: ;‘ >B‘ ‘ ?‘ G:‘ K‘ @ 6 ‘ B78> :‘ L‘ #‘
G B‘ ; :BC H 6 #‘ @8 ‘ ?> ‘ G:‘ >6 :B‘ ‘ >‘ G ?@8B‘
A: 9‘ ?8CG‘ B >6 : ;‘ ?‘ G:‘ H: H:6; C8 >

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; : B >6;‘ G: ‘ :DH :BB 6‘ K >‘ : ‘
C 9 L‘ >B‘ 78> : ;‘ @9‘ G:‘ C C8?P
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:> ‘ C 9‘ >CC ; 6 ‘ ‘ G:‘ B `:‘ ‘
C :B‘ 6‘ G:‘ H ? :A>‘ ? :B‘ G:‘
C 9‘ 6‘ 78:B 6‘ ? >9‘ H @>@ 9‘ G>A:‘
CC8H : ;‘ G:‘ B :‘ ‘ G:‘ ? 6B‘ > ‘ C ‘
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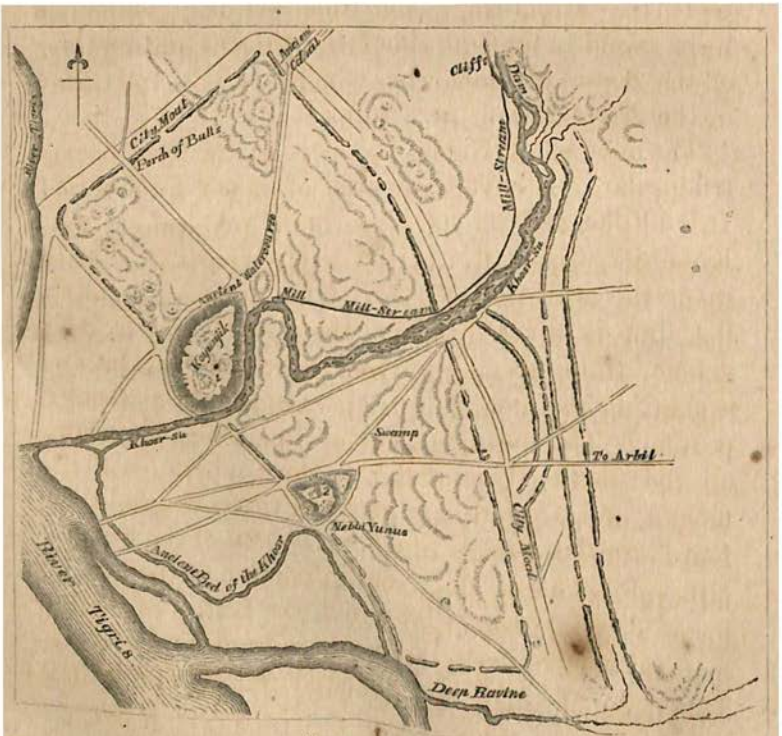
? 8; ‘ >6; ‘ 1 986J ‘ NHH ‘ - j "‘ >6; ‘
. "5S ‘ 1 S8 6J ‘ >CC ; 6 ‘ ‘ G:‘
G9H G:B B‘ F 8 ;‘ CC8H9‘ G:‘ 6 GP
F:B ‘ >6 :‘ ‘ G:‘ F6‘ >6;‘ B‘
B 8 G: 6‘ >6; ‘ :>B : 6‘ B ; :B‘ F 8 ;‘ G8B‘
G:‘ F G 6‘ G:‘ F6 4 @8 ‘ G:‘ ‘
; : :6C:B‘ > :‘ G B:‘ 6‘ G:‘ C>B
#‘ ; ‘ C‘ ‘ .

G:' > 8?:6' ;: A:;' ?' G:' @ ' ' * 6>G' ;:B: A:B' ? :' > :6 6' G>6' G>'F@ G' :B B' 8H 6' G:' >8 G 9' ' ; 8B' >6;' :B >B' 6 :' :B >B' * 6>G' B>F' 6:A: 'FG :' 'B 'B ;4 >6;' G 8 G' G:'F :' ' G:' H HG: C>' @ ' ?>9' 6 ' G>A:' @::6' * 6>G' G ?B: ^' G:' H @>@ 9' A:;' 6 ' A: 9' ?>69' 9:> B' >: ^' G8B' G B' :A ;:6C:' B' G>' ' >' C 6 :?H > 9' G 8 G' N ' ?>9' @:S' 6 ' G>' ' >6' :9: F 6:BB4 >6;' :A:6' >H> ' ?' G:' 6BH > 6' FG CG' 8 ;:;' G B' H:6' G:' B' :6 :;' 'G:' G:> ;' ; G' G:' 8 ? B'' :BH:C ' F' G:' B > :?:6 B' ' G B' F :'FG CG' G>A:' >' @:> 6 ' 6' G:' B `:' ' 6:A:G' > :' F ' &:' : B' 8B' 6' 6:' H >C:' G>' 'F>B' K >6' :DC::; 6 ' :>' C 9' ' G ::' ;>9B< J 8 6:94L< 6' >6 G: ' G>'K' 6' 'F: :' ? :' G>6' - 'H: B 6B' FG 'C 8 ;'6 ' ; BC: 6' @: F::6' G: ' G'G>6;'>6;' G: ' : L^ G:B:' H>BB> :B' > :' C :> 9' 6 :6;::;' ' ;:BC @:' >' C 9' ' >' B `:' 868B8>' >' G:' ? :4 @8' @ G' ' G:?' > :' ' B8CG' >6' :D :6' A> 8:' >6;' 6P ; B 6C ' G>' ' B' ?H BB @ :' ' ; >F' ?' : G: ' B:H> > : 9' ' :A:6' ?' G:' F ' C ?@6:;' >6' :D>C ' ;: 6 :' 6 6' K ' C 9' ' G ::' ;>9B< J 8 6:9L' ?>9' @:' 6:' FG CG' ' :78 :B' G ::' ;>9B' ' >A: B:' ?' :6;' ' :6;' ' @6:' FG CG' B' G ::' ;>9B<J 8 6:9' 6' C C8? : :6C:' ' >B 9' 6:' FG CG

Ć '" A@#' G>> ' :>=@:O>F' "A@"' N' "A>' :@" D> P' ,;' "A #' #' B F2BG">F,E' ?:">:' 2' "A>' G22O' 2' $2 @A' 25' ":B>!' GB"' '" F2>#' 2"' >#"@G, #A' ", >' ?, 4:>' ,> " >#' A =#>F' ? "A' "A>' >M@" D>
:2 A>" P' - 2 4>' += "A!' B7 #' N: ,>' 2#" 2' 2' "A>' G22O' '"A>'
% ' ' ' : K' N' '"A> >G:>?' @ 2 !' G>"?>> ' =2#' @ F' 42B":@ E!' A>' :@"A>:' 4@:> B,,E' O>> #' 4@A!' #A2?#' "A@"' "#' F@">' ?@#' :>5' A =#>, ' F #" 4"!' #& >@O '" 2' $2 @A' ' '@:F>F' @#' @,, '" G>"?>> ' b# @A' @,?@E#' '"A>' "A :F' >:#2 !' @ F' ' 6:(. ' K' @ F' >b>O @, ' :(. ' IKRK' Sl99T * P !' ' ' ' ' $' ! >D>A' ?@#' 2" F>#":2E>F' " ,;' (. ' ?C !' "A@" A>' >D>:' "A2 A" 2' k R
7 @' @:F>F' @#! @" "A> #@=>' " =>!' ' G@ @A' ' +
7 ,A' ?:">:' @ F' #BG >>" 2' "A>' @:L S G F' D' II

group of ruins believed by the best judges to mark the true site.

The ruins opposite Mosul consist of two principal mounds, known respectively as Nebbi-Yunus and Koyunjik. The Koyunjik mound, which lies to the north-west of the other, at the distance of 900 yards, or a little more than half a mile, is very much the more considerable of the two. Its shape is an irregular oval, elongated to a point towards the north-east, in the line of its greater axis. The surface is nearly flat; the sides slope at a steep angle, and are furrowed with numerous ravines, worn in



RUINS OF NINEVEH.
1. Palace of Sennacherib. 2. Supposed Tomb of Jonah.

‘6 *+ ‘)‘ *‘ + .”[

G:‘ B ‘ ?> : >‘ @9‘ G:‘ >6B‘ ‘B ?:‘ G 9‘C:6 8P
:B‘ G:‘ :> :B‘G: G‘ ‘ G:‘ ? 86;‘ >@ A:‘ G:‘
H>6‘B‘ F> ;B‘ G:‘B 8G :>B : 6‘ :D :? 9‘FG: :‘
‘ A: G>6 B‘ G:‘ B?> ‘B :>?‘ ‘ G:‘ 1G B 4 G:‘
: :A> 6‘ 6‘ GB‘H> ‘@: 6‘ >@ 8‘66: 9 A:‘ :: ‘
G:‘ > :>‘ C A: :;‘ @9‘ G:‘ ? 86;‘ B‘ :B ?> :;‘ >‘ >‘
G86; :;‘>C :B‘>6;‘ G:‘ :6 :‘ ?>BB‘ B‘B> ;‘ ‘C 6>6‘
"\ j , , , , ‘ 6B‘ ‘ :> G‘ G:‘ >@ 8‘ ‘ >‘ ?>6‘
F 8 ;<BC> C: 9‘ :DC>A> :‘ >6;‘H>C:‘ 6‘H B 6‘? :‘
G>6‘ ‘ 6B‘ ‘ :> G‘ 6‘ >‘ 9:> 4 ‘F 8 ;‘ :78 :‘
G: : :‘ G:‘ 86 :;‘ :D: 6B‘ ‘ - ‘ ?:6‘ ‘
F: A:‘ 9:> B‘ ‘ - ‘ ?:6‘ ‘B D‘ 9:> B‘ ‘C ?P
H : :‘ G:‘ B 8C 8 : # 6‘ GB‘ > C >‘ :? 6:6C:‘
F: :‘ >B:;‘ 6‘>6C :6‘ ?:B‘ G: H> >C:B‘>6;‘ :?H :B‘
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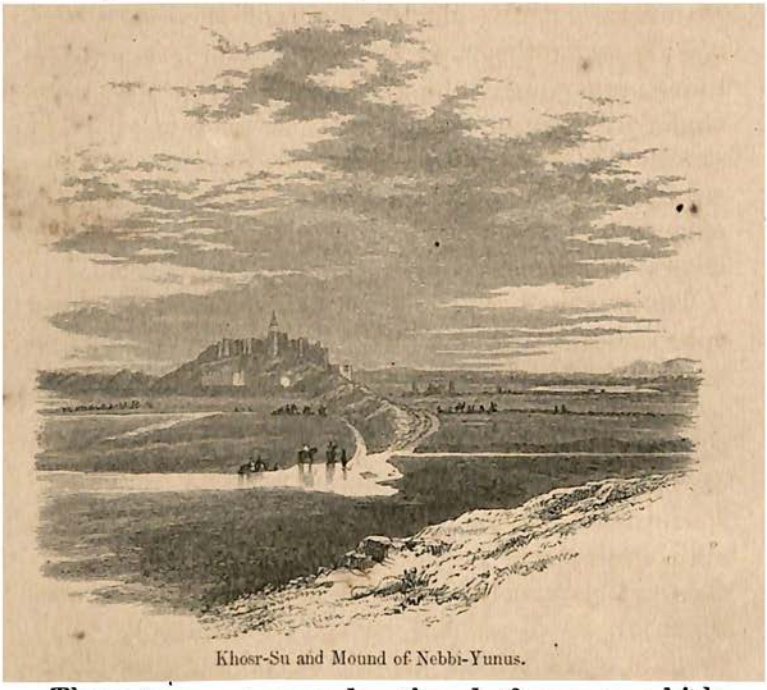
6‘ G:‘ G ‘ ‘G: ‘ F6‘ 8 6B
G:‘ ? 86;‘ ‘ :@@ 868B‘ B‘ > ‘ B‘ @>B:‘ 6:> 9‘
>6 8 > ‘ ‘C A: B‘ >6‘ > :>‘ ‘ >@ 8‘ 9‘ >C :B‘
‘ B‘ : ‘>6;‘ B‘B ;:B‘ > :‘ ? :‘H :C JJ 8B‘ G>6‘
1 986J ‘ :BH:C > 9‘ 6‘ G:‘ F:B ‘FG: :‘ ‘ >@8 :;‘
8H 6‘ G:‘ F> ‘ ‘ G:‘C 9‘ G:‘B8 >C:‘ B‘ ? B 9‘
> ‘ @8‘ B‘ ; A ;:;‘ >@ 8‘ G:‘ ? ;:‘ @9‘ >‘ ;::H‘
>A 6:‘ 866 6‘ 6:> 9‘ ?‘ 6 G‘ ‘B 8G‘ >6;‘
nB:H> > 6‘ G:‘ ? 86;‘ 6 ‘>6‘ :>B : 6‘>6;‘>‘F:B : 6‘
H 6‘ G:‘B C> :;‘ ?@‘ ‘* 6>G‘ B‘C 6BH C8 8B‘
6‘ G:‘ 6 G‘ :; :‘ ‘ G:‘ F:B : 6‘ H 6‘ ‘ G:‘
? 86;‘>6;‘>@ 8‘ ‘> :‘ 8H:;‘ G:‘C > :B‘ ‘G:‘
18 ;B‘>6;‘ 8C ?>6B‘ ‘FG ?‘ G:‘B :‘ ‘G:‘>6C :6‘
6:A:G‘@: 6 B‘ @:‘:>B : 6‘H 6‘ ‘G:‘? 86;‘
?B‘>2@8 > 86;‘ ‘FG CG‘ G:‘@ ; :B‘# ‘%>G P
?: >6B‘ > :‘ @ 8 G‘ ?‘ C 6B ;: >@ :‘ ; B >6C:B‘
G:‘ ?>BB‘ ‘:> G‘ B‘ C> C8 > :;‘ >‘ B D‘ >6;‘ >‘ G>

Ć +>>‘ ”G>‘C ‘ ‘ ‘ %‘ ” %) ‘!‘ D2, ‘ aD‘ ‘ J!‘ 2”>

millions of tons; so that its erection would have given full employment to 10,000 men for the space of five years and a half.



Khosr-Su and Mound of Nebbi-Yunus.

These two vast mounds—the platforms on which palaces and temples were raised—are both in the same line, and abutted, both of them, on the western wall of the city. Their position in that wall is thought to have been determined, not by chance, but by design; since they break the western face of the city into three nearly equal portions.[2] The entire length of this side of Nineveh was 13,600 feet, or

[2] Capt. Jones notes that from the N.W. angle of the city to the *centre* of the Koyunjik mound, from that to the *centre* of the Nebbi-Yunus mound, and from the centre of the Nebbi-Yunus mound to the S.W. angle of the city, are exactly equal distances. (*Journal of Asiatic Society*, vol. xv. p. 325.)

B H : F@>' ? :' G>6' F '>6;'>'G> ' ? :B' 6C :6 9' ' B: : ? B' ' G>A:' ? ? : ; > : 9' A: G86 ' G:' B' FG CG' G>B' 6 F' ? A: ;' ' ' G:' F : B ' :>A 6 ' >' H > 6' 6 :> 9'>' ? :' 6'F ; G' @: F : : 6' B' :>B : 6' : ; :' >6 ;' G:' ;' >?H> ' ' G:' C 9' G B' >?H> ' P F : ; ' >HH> :6 9' G:' 6> 8 >' C 8 B:' ' G:' A: ' @>6 '4 >6 ;' G:6C:' FG :' 6' G:' FG :' ' B' : >@ 9' B > G ' 6' G:' ? B ' B 8 G: 6' ' G:' G : : ' H 6B' ' :DG @ B' >' :6 :' C8 A:' FG: :' G:' A: ' :A ; : 6 9' ?>; :' >' BF : : H ' > : 6 ' B' C 8 B:' ?' B 8 G :>B ' 6:> 9' ' B 8 G

G:' F : B : 6' F> ' >' B' 6 G: 6' :D : ? 9' >HH >CG:B' G:' H :B:6 ' C 8 B:' ' G:' B ' >6 ;' B' G: :' J 6 : ; ' :D>C 9' > ' G ' >6 :B ' G9' G:' 6 G: 6 ' ' > G: ' G:' 6 G F : B : 6 ' >?H> ' FG CG' 86B' 6' >' H: :C 9' B > G ' 6:' ' G:' 6 G :>B : 6' >6 :' ' G:' C 9 ' >6 ;' B' B> ;' ' ? : >B8 :' : D>C 9' [, , ,' :: ^' G B' F> ' B' > > 6' ; A ; : ; ' :' G:' F : B : 6 ' @8 ' F J : A:6' ? :' H : C B:6 : BB ' 6 ' G : :' : 78>' H P 6B' ? ? : 6C 6 ' > ' G:' 6 G :>B : 6' >6 : ' 6: ' G ;' ' ' B' C> : ;' > 6 ' C ?H> > A: 9' G G' 86 ; ' > : ' FG CG# ' G:' : ? > 6 6 ' F G ;B' ' B' C 8 B:' ' > B' @9' >' :6 :' ; : C 6:' F> ;B' G:' B ' D>C 9' ? ; F>9' 6' G B' B H:' G:' >?H> ' B' O@ :6' @9' >' >; ' > ; J 6 6 ' FG CG' B' >' : ? > >@ :' ? 86 ; ' C A: 6 ' 6:' ' G:' CG : ' > : B' ' G:' C 9 '# ' B' G: ' : D : ? 9' G:' F : B : 6' F> ' ?B' >' A: 9' @ 8B:' >6 :' F G' G:' B 8 G: 6 ' FG CG' ?H:6 ;B' A: ' >' ; : : H' >A 6:' H : ;' @9' >' F 6 : ' :6 ' >6 ;' 86B' 6' >' B > G ' 6:' ' >@ 8 ' ' 9> ;B ' FG:6' ' ? : : B' G:' :>B : 6' F> ' F G' FG CG' ' ?B' >' B G 9' >C8 :' >6 :

' B' :C 6: ;' G> ' 6' >' H H8 8B' :6 >' F6' F: '
?>9' C ?H8 : G:' 6G>@ >6 B' >' 6:> 9' ' 6 ' 78 :'
@ G86; : ;' H: ' >C :' G B' > FB' >' C 6B ; : >@ :'
BH>C:' ' B :: B' H:6' B78> :B' >6;' > ; :6B4' B 6C:'
' >BB 6B' @8 ' 6:' 6; A ;8>' 2 ' :A: 9' BH>C:' ' 9'
B78> :' 9> ;B' CC ; 6 ' ' B8CG' >' ? ; :' ' :C 6P
6 ' G:' H H8 > 6' ' >6C :6 ' 6:A:G ' F G 6' G:'
:6C: 6 :' G: :' ; :BC @: ; ' ?>9' @:' :B ?> : ;' >' "[j , , ,'
B 8 B' ' C 9' ' 0 :B : 6' B >' B' >' G:' H :B:6 '
;>9' B ' H H8 8B

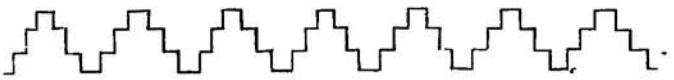
6' G:' >@ A:' ; :BC H 6' ' G:' >?H> ' B8 86;P
6 ' 6:A:G ' 6 ' >CC 86 ' G>B' @: :6' A:6' ' G: '
F ; G' ' G: G ' CC ; 6 ' ' ; 8B' G:' F> '
FG: :F G' 68B' B8 86; : ;' G 3' C>H >' F>B' '
: : ' G G ' >6;' B ' @ >;' G>' G : :' CG> B' ? G '
; A:' B ; :' @9' B ; :' > 6 ' G:' H ' / :6 HG 6 ' FG '
H>BB: ;' C B:' ' G:' 8 6B' 6 ' G B' : :>' F G' G:'
:6' G 8B>6; ' C> B' G:' G: G ' "j ,' : : ' >6;' G:'
F ; G' j ,' : : ' G:' >C 8>' :> :B ' G: G ' >' H :P
B:6 ' B: : ?B' ' @:' \5' : : 4^' @8 ' G:' ? ' >' G:' '
' G:' F> B' > :' B ' :> ' >6;' G:' C 8?@ : ;' CG> >C : '
' G:' F> B' G: ?B: A:B' B' B ' :A ; :6 ' G>' G:' CG : '
? ; : 6' :DH : ' 6C 6:B' ' : > ;' G:' C ?H8 > 6'
' ; 8B' >B' H @>@ 9' 6 ' :D> : > 6' ' G:'
8 G ^' G:' F ; G' ' G:' F> B ' 6' G: ' C 8?@ : ;'
C 6; 6 ' B' ?' ' ' ' : :

G:' ? ; :' 6' FG CG' G:' F> B' F: :' C 6B 8C : ;'
B: : ?B' ' G>A:' @: :6' G:' F 6 ' H' ' >' C: > 6

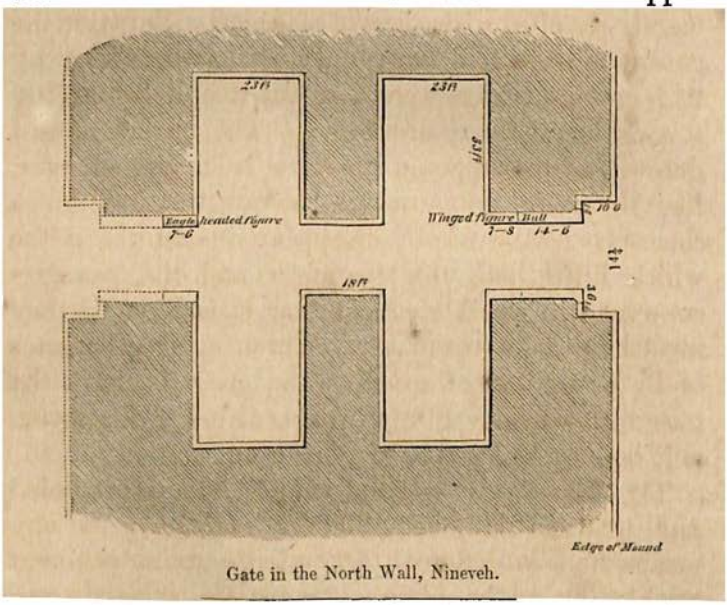
' & ' U!']' I ' ' @##" =>' H' C ' ' %' " '!' D2, '
"A@"' "A>' k ># ,@' 2 ' . > 2 A2 ' #' & . +' '
F> " 4@,' ? "A' "A>' :B #' 2 7 # "4' H' / @E@:F!' A ' ' : ' !'
2#B, ' A>:>' F24#' 2"' #>>=' "2' G>' ' J Q ' N A>' :>=@ #' #" ,,' >a #"L
@ E' :>@#2 @G,>' F2BG"' 2 ' "A # ' +>>' M' 2 ' "A>#>' 2:" 4@" 2 #' @, =2#"'
#?2:"A!' ' ' ' %@' ' 42 :=' "A>' #"@">=> "' 2 ' 2F2:B#'
' ' !' ' I U "' C ' + 4B,B#!' "A@"' "A>' ?@,,#' ?2:>' @' AB L
' %' " % '!' D2, ' aD ' ' K F:>F' >>"' A MA!P' 34

- / '

height—fifty feet, according to Xenophon[1]—they were composed of neatly-hewn blocks of a fossiliferous limestone, smoothed and polished on the outside.[2] Above this, the material used was sun-dried brick. The stone masonry was certainly ornamented along its top by a continuous series of battlements or gra-



dines in the same material;[3] and it is not unlikely that a similar ornamentation crowned the upper



Gate in the North Wall, Nineveh.

[1] *Anab.* iii. 4, § 10. The excavations have not yet tested this statement of Xenophon's; but, as his estimate of twenty feet is *exactly* correct for the stone basement of the walls of Nimrud (Larissa), we may fairly assume that he probably did not much miscalculate here. (Cf. *Anab.* iii. 4, § 7, with Layard's *Nineveh and Babylon*, pp. 123, 125.)

[2] Λίθου ξεστοῦ κογχυλιάτου. (*Anab.* iii. 4, § 10.) Mr. Ainsworth remarks that this fossiliferous stone is the common building material at Mosul, but "does not occur far to the north or to the south, being succeeded by wastes of gypsum." (*Travels in the Track of the Ten Thousand*, p. 140.)

[3] Layard, *Nin. and Bab.* p. 658.

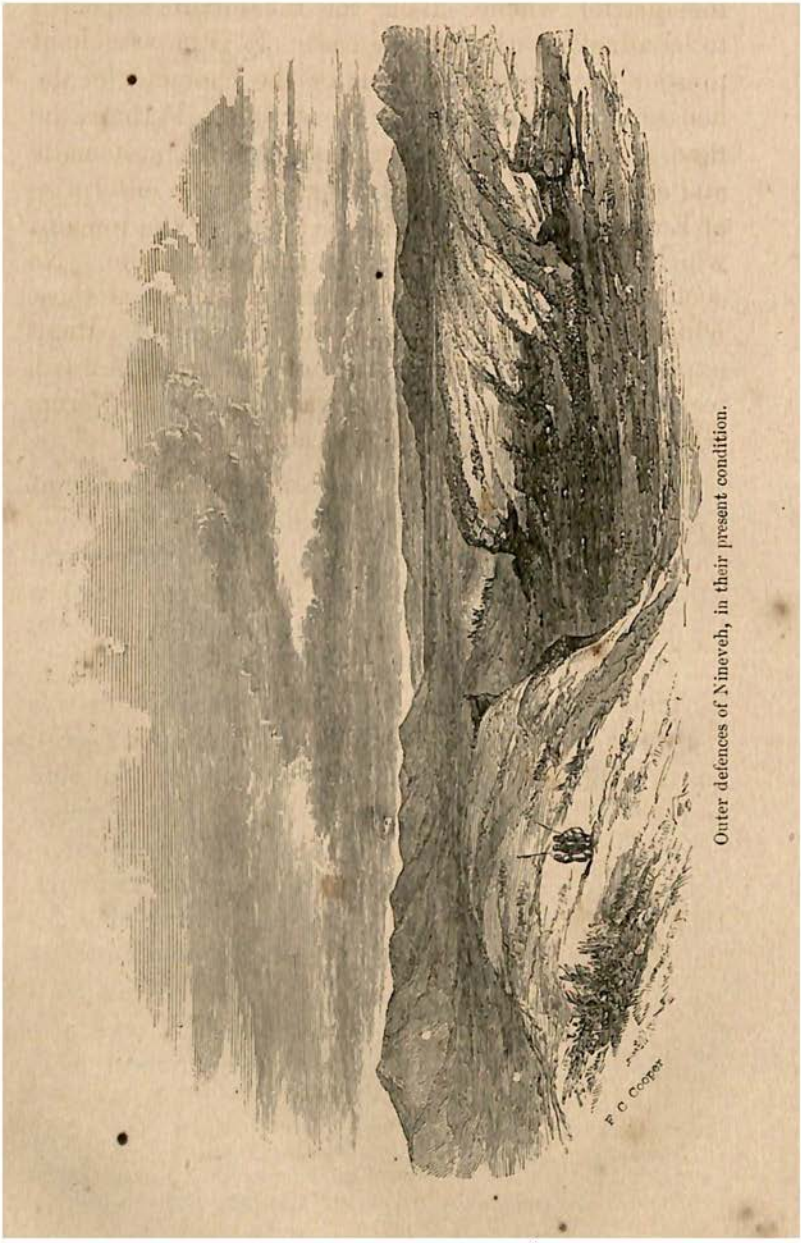
@ C ‘ B 8C 8 : I‘ G:‘ F> ‘ F>B‘ H : C: ;‘ > ‘ : 8 > ‘
6 : A> B‘ @9‘ > :B ‘ >@ A:‘ FG CG‘ B:‘ 9‘ F: B4‘
FG :‘ F: B ‘ H @>@ 9‘ ‘ :BB: ‘ : :A> 6 ‘ CC8 : ;‘
> BH‘ 6‘ G:‘ H 6B‘ ‘ G:‘ F> ‘ 6 : A:6 6 ‘ @: F: :6‘
6:‘ > :‘ >6 ;‘ >6 G: ‘ ‘ > :‘ 6‘ G:‘ 6 G F:B : 6‘
> ? H> ‘ G>B @: :6‘ C :> : ;‘ @9‘ ? :>6B‘ ‘ :DC>A> 6 ‘
G:‘ ?‘ >6 ;‘ C 6B 8C 6‘ ‘ FG CG‘ F ‘ @:B ‘ >HH:> ‘
?‘ G:‘ >66:D: ;‘ 86; H >6 ‘ ‘ B: : ? B‘ ‘ G>A:‘
C 6B B : ;‘ ‘ G : :‘ > :F>9B ‘ FG: : ‘ G:‘ 66: ‘ >6 ;‘
8 : ‘ F: :‘ 6> ? :6 : ;‘ F G‘ C BB> ‘ G8 ? >6 G:> ; : ;‘
@8 B‘ >6 ;‘ G: ‘ 8 :B ‘ FG :‘ G:‘ C:6 H ‘ 6:‘ F>B‘
? : : 9‘ H>6: : ;‘ F G‘ B >@B‘ ‘> >@>B : ‘ $: F: :6‘ G:‘
> :F>9B‘ F: :‘ F ‘ > :‘ CG> ? @: B ‘ [,‘ : : ‘ 6 ‘ @9‘
-.‘ : : ‘ F ; : ‘ FG CG‘ F: :‘ G8B‘ C>H>@ :‘ ‘ C 6 > 6 6 ‘
>‘ C 6B ; : >@ :‘ @ ;9‘ ‘ B ; : B ‘ G:‘ CG> ? @: B‘ >6 ;‘
> :F>9B‘ > :‘ B8HH B: ;‘ ‘ G>A:‘ @: :6‘ > CG: ;‘ A: ‘
:‘ G:‘ C>B :‘ > :B‘ 6‘ G:‘ @>B : : B ‘ G:‘ > :B‘
G: ? B: A:B‘ G>A:‘ FG 9‘ ; B>HH:> : ;4 @8 ‘ G:‘ ‘
FG CG‘ : ;‘ @ G‘ G:‘ CG> ? @: B‘ >6 ;‘ G:‘ H>BB> :B‘
C 6 > 6: ;‘ B ‘ ? 8CG‘ CG> C > ‘ G> ‘ ‘ B‘ G 8 G ‘ G:9‘
? 8B ‘ G>A:‘ @: :6‘ ? >; : ‘ 6 ‘ ‘ @ 6`: ‘ :‘ G:‘ > :B‘
‘ $>@9 6 ^‘ @8 ‘ ‘ F ; ‘ G:‘ 86 ;‘ F G 6‘ G:‘
> :F>9‘ F>B‘ H>9: ;‘ F G‘ > :‘ B >@B‘ ‘ ? :B 6: 2
B ‘ @:> 6 ‘ G:‘ ? > B‘ ‘ CG> ‘ FG: : B ^
G:‘ C>B : > : ;‘ > ? H> ‘ FG CG‘ G8B‘ B8 86; : ;‘
>6 ;‘ 8> ; : ;‘ 6:A:G‘ ; ;‘ 6 ‘ C 6B 8 :‘ @9‘ >69‘
? :>6B‘ B‘ B :‘ ; : :6C: ‘ 8 B ; :‘ G:‘ B 6:‘ @>B: ? :6 ‘
F> ‘ >9‘ 6‘ :A: 9‘ B ; :‘ >‘ F> : ‘ @> : ‘ C 6B B 6 ‘ 6‘
G:‘ F:B ‘ >6 ;‘ B 8 G‘ ‘ 6> 8 > ‘ A: ‘ C 8 B:B4 6‘ G:‘
6 G‘ >6 ;‘ :>B ‘ ‘> C > ‘ CG>66: B‘ 6 ‘ FG CG‘ F> : ‘
F>B‘ C 6 ; 8C : ;‘ ?‘ G:‘ 1G B B8 ‘ G:‘ 6 O G: 6

‘6 * ‘ *)* *+‘)‘ *-* .-j

:6C:B‘ B:B‘ :A:6‘ 6 F‘ >‘ G86; :;‘ :: ‘ >@ A:‘ G ‘ @ ?‘ ‘ G:‘ ; CG‘ 6‘ FG CG‘ ‘ >;J 6B‘ 8 G: ‘ @: F::6‘ G B‘ 8 : ‘ @ : ‘ >6;‘ G:‘ C 9‘ ?c>‘ F>B‘ 6 : H B:;‘ >‘ BH:C :B‘ ‘B:? 86:‘ 8> ;:;‘@9‘>‘ ; 8@ :‘ F> ‘ >6;‘ >‘ @ >;‘ ; CG 2>6;‘ C 66:C :;‘ N>B‘ B‘ G 8 G S‘ @9‘ >‘ C A: :;‘ F>9‘ F G‘ 6:A:G‘ B: ‹ G8B‘ :‘ C 9‘ F>B‘ H :C :;‘ G‘ G B‘ B‘ ? B‘ A8 6: >@ :‘ B ;:‘ F> ;B‘ G:‘ C:6 :‘ @9‘ A: F> B‘ >6;‘ G :‘ @ >;‘ >6;‘ ;::H‘ ? > B4 F> ;B‘ G:‘ 6 G‘ @9‘ >‘ F> ‘ >‘ ? > ‘ G:‘ 1G B ‘ >6;‘ >‘ B 6 ‘ 8 H B 4 F> ;B‘ G:‘ B 8 G‘ @9‘ F ‘ ? > B‘ >6;‘ G :‘ 6:B‘ ‘ >?H> ‘ G:‘ @ :>; G‘ ‘ G:‘ FG :‘ C> 6‘ 6‘ G B‘ B ;:‘ B‘ ‘ :: ‘ ‘6 ‘ > ‘ ?‘G> ‘>‘ ? : ^

8CG‘ F>B‘ G:‘ B :‘ >6;‘ B8CG‘ F: :‘ G:‘ ;: :6C:B‘ ‘ G:‘ C>H >‘ ‘ BB9 >‘ ‘ B‘ 6 : 6>‘> >6 :?:6 B‘ @8‘ :‘ C>6‘ @:‘ B> ;‘ >‘ H :B:6 ‘ B 6C:‘ 6 ‘ :6: >‘ :D>? 6> 6‘ ‘ G:‘ BH>C:‘ F G 6‘ G:‘ >?H> B‘ G>B‘ @::6‘ >B‘ 9:‘ ?>;:‘ >6;‘ 6 ‘ >6C :6 ‘ >CC 86‘ ‘ G:‘ 6 : ‘G>B‘C ?:‘ ; F6‘ ‘8B‘ 0 :‘C>6‘ 6 9‘B::‘ G>‘ G:‘B ;:‘ ‘ G:‘C 9‘ FG CG‘ F>B‘ ? B‘ >BG 6>@ :‘ F>B‘ G:‘F:B : 6‘FG CG‘ ? ? :; > : 9‘ A: G86‘ G:‘ B4 B 6C:‘ G: :‘ F: :‘ G:‘ H> >C:B‘ ‘ G:‘ 6 B‘ >6;‘ G: :‘ B::?‘ > B ‘ ‘G>A:‘@::6‘ G:‘ ;F: 6 B‘ ‘ G:‘ CG: ‘ C `:6B4 >‘ :>B ‘ ‘ B‘ 6‘ G B‘ B ;:‘ 6‘ G:‘BH>C:‘ 6 : P A:6 6 ‘@: F::6‘1 986J ‘>6;‘ G:‘6 G: 6‘ >?H> ‘ G>‘ G:‘ 6 9‘A: 9‘:A ;:6 ‘ :?> 6B‘ ‘:; C:B (@:B ;:B‘ G:‘ :>‘ ? 86;B‘ ‘ 1 986J ‘ >6;‘ :@@ 868B (‘ > :‘ 86; ^‘ G:‘ A: ‘F>B‘ 6 ‘ ; 8@‘ G:‘ ?> 6‘ > P >C 6‘4 @8‘ H: G>H6‘ G:‘ F:B : 6‘ B ;:‘ F>B‘ > B ‘ C 6B ;: :;‘ G:‘ ? B‘ B:C8 :‘ >B‘ 9 6 ‘ 8 G:B‘ ?

‘C‚ ‘ ‘ %‘ " % ‘!‘ D2,‘ C +>4‘ "A>‘ ‚@ ‘ #B :@!‘ ‘ IJK‘ ‘ #D‘ ‚ @ ‚‘ 42= @:>‘ "A>‘ C ‘ ‘ ‘ S / E@:F!‘ A &‘ ‘ : & ‘J1 ! %‘ " % ‘!‘ D2,‘ aD‘ ‘ 2">‘



Outer defences of Nineveh, in their present condition.

' - * ' *)* *+')' *-* .-[

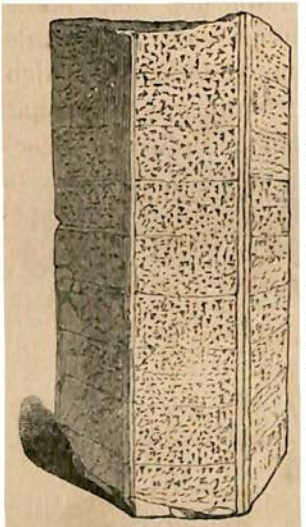
G:'78> :' FG:6C:' > 6:' G:' 6G>@ >6 B' :DH:C :;'
'@:'> >C :;'6>?:9' G:':>B ' ' B' ?H BB @ :'>'
H :B:6'' ' A:'>69'>CC 86' ' G:'CG> >C :' ' G:'
G 8B:B' ' G:' ; :C 6' ' G:'B :: B' :'G>HB' G:'
?:' ?>9'6 '@:' >' ; B >6'FG:6' ? :' B9B :?> C'
>6;'C 6 68 8B' : B'F '@:'?>;:'@9' G:':6 : H B:'
' 8 H:' ' @>6' >' 6 F :; :' '> ' G:' :?>6B'
FG CG' B ' :'@8 :;'>' G B' 6 : :B 6'B :' '
B8CG';BC A: :B'>:'6;::;' '@:' :DH:C :;'>B' G B:'
FG CG'G>A:' :C:6 9'B> :;' G:'F ;'4 @8'H> :6'
:DH : B' F 8 ;' B '@:'B8 :' '>6'>?H :' :F> ;'
F: :' G:9' ' :>6'> : ' >9> ;' 6' G:' : ;' ?'
FG CG'G:'BF:H'B'?> 6 C:6'>'G> A:B

' - ' ++ ' / 1 1*' ' 0 1 .-X

C: > 6' 68 ? @: ' ' BB9 >6' 9>' 6> ? :B4' @8 ' G B'
; C8 9' F> ' G 8 G ' ' @:' B8 C :6 9' ? : ' @9' >'
B8 :B 6' G> ' G:' 8 6 ' @:' ? G 'G>A:' @: :6' '
%: ; >6' ; :BC:6 '>6;' G>A:' ?> 6 > 6: ;' B' ;' 6> 6>'
>HH: > A:B' FG :' G :' ?>BB' ' G:' H H8 > 26' @:P
6 : ;' '>' ; : :6 ' >C: ' :C:6 ' ; BC A: :B'G>A:'
BG F6' G> ' G B' >B '2 8 :B 6'F>B' 6: : ; :BB' >B' G:'
; C8 9' FG CG' ' F>B' 6 :6; : ;' ' ? : : ' ; :B' 6 '
:D B ' G:' BB9 >6' 6>? :B' FG CG' : G: ' ' '
G:' ? 68 ? :6 B'G>A:'G>6; : ;' ; F6' '8B'> :' : ? C'
>6;'6 ' >6' ' B' 6 9' > ? 6 ' G:' >@8 8B' >CP
C 86 B' ' G:' BB9 >6' ?H :' H8 ' G'@9' :B >B'
G> ' >6' 6>? :B' B8CG' B' / : D:B' 8B' ?> '
? G :B'% G ?8B ' cC '> :' '@:' 86;
: G: ' F G' G:' 8:' 6>? :B' ' G:' BB9 >6'
6 B' G:' ? 86;B' '%:B H >? >'G>A:' 9 : ; : ;'8H'
>'?>BB' '; C8?:6 B' 6' G:' BB9 >6' >6 8> : ' ?'
FG CG' 'B' H BB @ :' G> 'F :' ?>9' 6:' ;>9' >C78 :'>B'
8 '>' 6 F : ; :' ' B' B 8C 8 :' >6;' A C>@8 > 9'>B'
F:' 2H BB:BB' > ' H :B:6 ' ' : : ' ' > 6 ' Y G:B:'
; C8?:6 B' G>A:' C 6 ? : ;' G:' H :A 8B' @: : ' G> '
G:' 6 8:' 5' : ? C' G:9' C 6B B ' 6' G:' B'
H >C: ' ' 6 ' 6BC H 6B' 8H 6' G:' B >@B' 'B 6:'
F G'FG CG' G:'F> B' 'H> >C B'F : :'H>6: : ; 'B ? :P
? :B' CC8H9 6 ' G:'B 6:' ' G:' :DC 8B 6' '>69'
BC8 H 8 :' B ? : ? :B' C> : ;' >C BB' G:' ; :BB' @'
8 :B'> F>9B' C> : 8 9'C8 '>6;' :6: > 9' 6' ;'
H :B: A> 6# :D ' 6' ?H >6C:' ' G:B:' ? : ? P
> B'> :' G:'G F'C9 6; : B' '? :'B C 9'BH:> P
6 ' G:D> 6>' ' C > 6>' H B?B' ?>; :' 6' :D

% : 4A@:F!' + ' % ' B ' ' B: 2#>,E' F> @4>F' ;@ F' :> F>:>F' ,L
) @ !'D2, ' D ' 'Q ,>M G,>!' :2G@G,E'GE'O M# 2 '@ 2"A>:'
k 44@# 2 @,,E "A>'#,@G# A@D>'G>> FE @#"E

tremely fine and thin terracotta,[5] which the Assyrian kings used to deposit at the corners of temples, inscribed with an account of their chief acts and with numerous religious invocations. These cylinders vary from a foot and a half to three feet in height, and are covered closely with a small writing, which it often requires a good magnifying glass to decipher. A cylinder of Tiglath-Pileser I. (about B.C. 1180) contains thirty lines in a space of six inches, or five lines to an inch, which is as close as the type of the present volume. This degree of closeness is exceeded on a cylinder of Asshur-banipal's (about B.C. 660), where the lines are six to the inch, or as near together as the type of the Edinburgh Review. If the complexity of the Assyrian characters be taken into account, and if it be remembered that the whole inscription was in every case impressed by the hand, this minuteness must be allowed to be very surprising. It is not favourable to legibility; and the patience of cuneiform scholars has been severely tried by a mode of writing which sacrifices everything to the desire of crowding the greatest possible quantity of words into the smallest possible space. In one respect, however, facility of reading is consulted, for the inscriptions on the

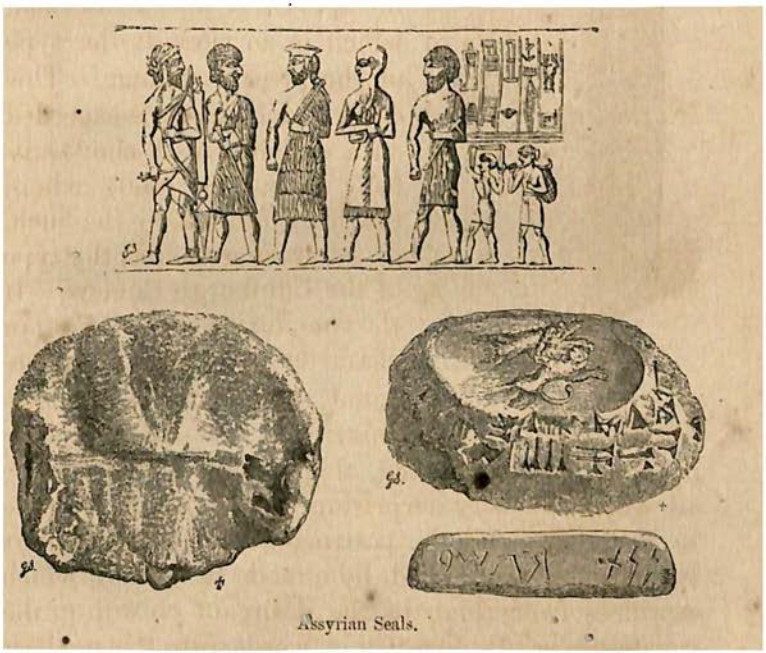


Assyrian Cylinder.

[5] Birch, *Ancient Pottery*, p. 144.

cylinders are not carried on in continuous lines round all the sides, but are written in columns, each column occupying a side. The lines are thus tolerably short; and the whole of a sentence is brought before the eye at once.

Besides slabs and cylinders, the written memorials of Assyria comprise inscribed bulls and lions, stone obelisks, clay tablets, and engraved seals. The seals generally resemble those of the Chaldæans, which have been already described;[6] but are somewhat more elaborate, and more varied in their character.

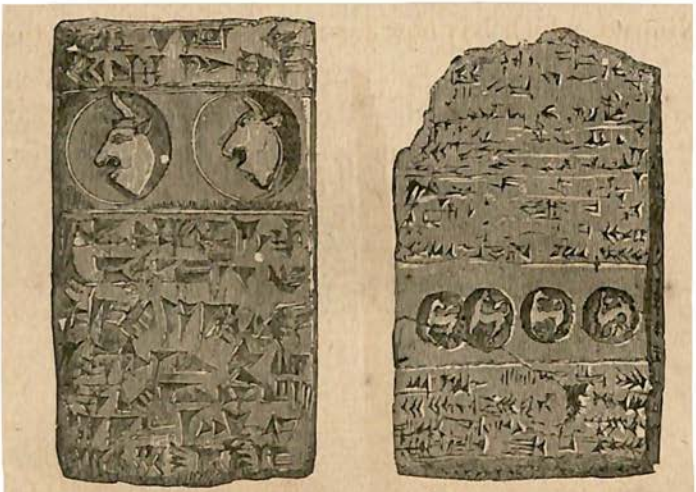


Assyrian Seals.

They do not very often exhibit any writing; but occasionally they are inscribed with the name of their

[6] See above, "First Monarchy," ch. iv. p. 85, and ch. v. pp. 117-119.

owner,[7] while in a few instances they show an inscription of some length. The clay tablets are both numerous and curious. They are of various sizes, ranging from nine inches long by six and a half wide, to an inch and a half long by an inch wide, or even less.[8] Sometimes they are entirely covered



Assyrian Clay Tablets.

with writing; while sometimes they exhibit on a portion of their surface the impressions of seals, mythological emblems, and the like. Some thousands of them have been recovered; and they are found to be of the most varied character. Many are historical, still more mythological; some are linguistic, some geographic, some again astronomical. It is anticipated that, if they can be deciphered, we shall obtain a complete encyclopædia of Assyrian science, and shall be able by this means to trace a

[7] Layard, *Nineveh and Babylon*, p. 604, note. [8] Ibid. p. 345.

large portion of the knowledge of the Greeks to an Oriental source. Here is a mine almost unworked, from which patient and cautious investigators may one day extract the most valuable literary treasures. The stone obelisks are but few, and are mostly in a fragmentary condition. One alone is perfect—the obelisk in black basalt, discovered by Mr. Layard at Nimrud, which has now for many years been in the

Black Obelisk, from Nimrud.

British Museum. This monument is sculptured on each of its four sides, in part with writing and in part with bas-reliefs. It is about seven feet high,

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>G;' F ' : : ' @ >;' > ' G:' @>B: ' >H: 6 ' :6 9'
F> ;B' G:' B8? ? ' FG CG' B' C F6: ;' F G' G : :'
F' B :HB' ' >; 6:B' G:' 6BC H 6' FG CG' CC8P
H :B' G:' 8HH: ' >6;' F: ' H 6' ' :>CG' B ; : ' >6;' B'
> B ' C> : ;' > 6 ' G:' BH>C:B' @: F: : 6' G:' @>B : : B'
C 6B B B' ' ' C :> 9' C8 ' 6:B ' >6;' B' 6:' ' G:'
? B ' ?H >6 ' ; C8? :6 B' G> ' G>B' C ?:' ; F6' ' 8B'
' A:B' >6' >CC 86 ' ' A> 8B' A C :B' > 6: ;' @9'
G:' ? 6> CG' FG ' B: ' ' 8H ' >6;' ' G:' @ :'
@ 8 G ' G ?' @9' B:A: > ' H 6C:B ^' G:' 6BC @: ;' 6B'
>6;' @8 B' > :' 68? : 8B' G:9' C ? ? 6 9' 8> ;' G:'
H > B' 'H> >C:B ' >6;' > :' > B: ;' 6' >' @ ;' : : ' 6'
> >@>B : ' B >@B ' G:' F 6 ' ; :B' 6 ' :6CG' 8H 6'
G:' BC8 H 8 : ' @8 ' C A: B' > ' G B:' H 6B' ' G:'
B >@B' FG CG' > :' 6 ' CC8H : ;' @9' G:' >6 ?> ' ' B'
8B8> 9' >' 8 ' >CC 86 ' ' B ? :' H> C8 > ' C> ? H> 6 '
FG CG' F>B' G8B' BH:C > 9' C ? ? : ? > : ; ' A 6 ' 6'
; : > ' FG> ' B' > ' ? :' @ : 9' :DH :BB: ;' 6' G:'
@: B ' >6 ;' B >@' 6BC H 6B

G B' :A : F' ' G:' A> 8B' @ 6 ;B' ' ; C8? :6 B'
FG CG' G>A:' @: : 6' ; BC A: : ;' 6' G:' >6C :6 ' C :B' '
BB9 > ' B: : ? B' G F' G> ' F ' ? > : > B' F: :' H 6P
C H> 9' 6' 8B:' > ? 6 ' G:' H: H :' ' : > 9' H8 H B:B '
6> ? : 9 ' B 6:' >6;' ? B ' C >9 ' G:' ? 6> CGB' 8B: ;'
G:' ? : ' ? B ' C ? ? 6 9 ' G 8 G' B ? : ? :B' G:9'
C 6; :BC:6; : ;' ' B ? :' BH:C > ' @J:C ' ' G:' C > B: '
>6;' ? :' > :' ?> : > ' A> :' H: B 6B' 6' G: '
@8B 6:BB' >6B>C 6B ' : > 9' >6;' BC :6 C' ? :6' 6'
G: ' C ?H B 6B ' : ?H 9: ;' G:' > : ' 6' FG CG' '
F>B' H BB @ :' ' F :' >H ; 9' F G' >' >6 8 >

H' +>>'"A>':@, #,@" 2 'GE' :' 4O# C C ' ' %' " % '!' D2,!'
' "A>' G '') [' a !' ' UU I
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6B 8?:6 ' >6;' FG CG' F>B' 6 ' ; 8G ' > ' CG:>H: ' G>6' G:' B >@B' ' 6:' B 6: ' FG CG' F: :' H : : :;' 2' G:' 9>' 6BC H 6B' G:' C >9' ; C8?:6 B' FG:6' F>6 :;' ' 6B 8C 6' '>B' :A ; :6C:' F: :' C> : 8 9' @> C: ;4 >6;' G8B' ' B' G>' G:9' G>A:' C ?:' ; F6' ' 8B' ;:BH :' G: ' > 9' :6' 6' >B' : @ :' >' C 6P ; 6' F G' G:' : : B' >B' C :>' >6;' BG> H' >B' >69' : :6;' 6' ?> @ :' B 6:' ' ?: >' G>' F:' H BB:BB' @: 6 6 ' ' :: ' ':A:6' ' ?>6' ?:B' G:' @:B' C >9' B 8 9' @> :;' B' ' ?> : >' 78 :' >B' :6;8 6 '>B' : G: ' B 6:' ' ?: > 4K :B B 6 ' ?>69' 6 8:6C:B' @: : ' G>6' : G: ' ' G B:' ?> : > B ' ?>9' B ' G:' >B :;' ; ;' 6 ' G:' BB9 >6B' 8B:' G: ' ?> : > B' > B '3 ;# G:9' 6 ' F :' F G' 6 ' ' B ?:' 6;' 6' H>H: ' ' :> G: ' ' H> CG?:6 3' ' B' C: > 6' G>' G:' 9H >6B' G>;' 6A:6 :;'>' J6;' ' G C ' H>H: ' ?>69' C:6 8 :B' @: :' G:' BB9 >6' H F: '> B:>6;' ' B' 8 G: 'C: > 6' G>' G:' > : ' BB9 >6' 6 B' G>;' >' ;' ;:>' ' 6 : C 8 B:' F G' 9H ' 6;: ' B8CG' C C8?B >6C:B' C>6' F:' B8HH B:' ! G>' G:9' ; ;' 6 ' ?H ' H>H: ' ?' G>' C 86 9'3 > 6 ' G:' : B >6B' F:' > :' ; ' 8B:;' H> CG?:6 ' ' G: ' H8@ C' :C ;B # :' 6 ' G:' BB9 >6B' >' ?8CG' ? :' 6 :6 8B' H: H :' : 9' ' G>A:' ; 6:' G:' B>?:' >' >69' > :' ' B ?:' :D :6 '3 G: :' B' 6 ' ; :C ' :A ; :6C:' @9' FG CG' G:B:' 78:B 6B' C>6' G:' ;: : ? 6> : 9' >6BF: :;' ' ; C8?:6 ' 6' >69' ' G:' ?> : > B' B8 :B :;' G>B' @: :6' 86;' ' '>6C :6 ' >8 G ' B > :B' G>' G:' BB9 >6B' ' G:' $>@9 6 >6B

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B ?:' B8@B >6C:' :'H>H: ' 'H> CG?:6' F>B'8B:;'4
>6;' G8B'F:'> :' :;' ' G:'C 6C 8B 6' G> 'FG :'C >9'
F>B' G:' ? B'C ?? 6'>6;'B 6:'>6' ; 6> 9'F 6 '
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8B:;' CC>B 6> 9' G 8 G'B ?:FG>' > : 9' 'H8@ C'
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6> 8 :' ' G:' BB9 >6'F 6 ' : A:;':A ;:6 9'
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B:6 6 '6 ' H C >' :H :B:6 > 6B' ' @J:C B'>6;'
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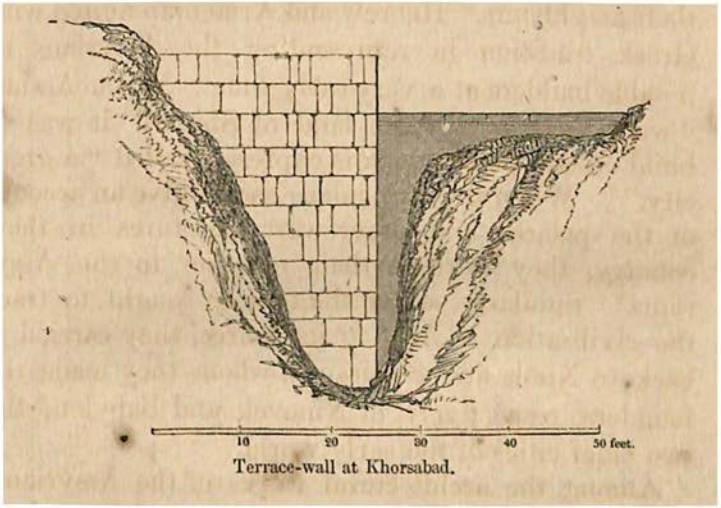
8 ' 'J8B 9' 8C ' >6' > : ? H ' >B' G:' H :B:6 ' >6;' ' B8HH 9' >' B ;' 86; F ' ' >C ' A> 8>@ :' 6' B: ' :A:6' ' ' @:' 6B8 C :6 ' ' B8B > 6' 6' >; ; 6' >69' > :' >? 86 ' 'G9H G: C>' B8H: B 8C 8 :

G:' > CG :C 8 :' ' G:' BB9 >6B' F ' 6> 8 > 9' :6 > :' 8 ' > :6 6' > ' G:' 8 B: ' ' B' ?' >6' :D>? 6> 6' ' G: ' : ; GC:B' G>' F:' G>A:' ; : A: ;' > ? B ' > ' G:' 6 F : ; :' FG CG' F:' H BB:BB' ' G: ' H :BB' 6'<:A: 9' > 4 >6;' ' B' 8 G: ' >B' > CG :C B' G>' G:9' > F>9B' :6J 9: ;' >' BH:C >' :H8 :' >? 6 ' G: '6: G@ 8 B' &:@ :F' >6;' ? :6 >6' 86 : ;' F G' : : ' >; 6' 6' :H :B:6 6 ' G:' BB9 >6B' >B' 6 >@ :' @8 ; : B' > ' >' A: 9' :> 9' ? :' 0 G:6' BBG8 ' K' F:6 ' G' 8 ' ' G:' >6;' ' G 6> 2< ' F>B' ' @8 ;' C :B ' 6:' 'FG CG' B' :DH :BB 9' C> : ;' K' >' :> ' C 9 L' Y 0 G:6' G:' ? :6 >6B' G>;' ' A:' >6' >CC 86 ' ' G:' H> >C:B' >6;' G: ' A>B ' B 8C 8 :B' 6' G: ' C 86 9' G:9' >BC @: ;' G: ' : :C 6' ' G:' BB9P >6B # ? > 9' FG:6' G:' : : B' B 8 G ' >C:' G:' C A B> 6' ' B >' ' B' B 8 C: 2 G:9' C> : ;' ' @>C ' ' 68B' >6;' : ? >? B ' FG ?' G:9' ?>; :' G:' 86; : B' :BH:C A: 9' ' 6:A:G' >6;' $>@9 6 ^' G:' F ' CG : 'C :B' ' G:' :> 9' F ; ' #

? 6 ' G:' > CG :C 8 >' F B' ' G:' BB9 >6B' G:' B ' H >C:' B' CG> :6 : ;' @9' G: ' H> >C:B' :BB' : 8B ' ' ? :' B: A : ' G>6' G:' 9H >6B' >6;' G:' : : B ' G:9' ?> :' G: ' : ?H :B' 6B 6 C>6 ' 6' C ?H> B 6' F G' G:' ; F: 6 B' ' G: ' 6 B ' 'FG CG' 6; : : ;' G:' : ?H :' B' ? B ' C ? ? 6 9' >' B ' '>HH:6P ;> : ' 6' G:' H> >C:' G: ' > ' C8 ? 6> :B (G: :' :A: 9' : ' B' ?>; : ' :A: 9' 6>? :6 ' >A BG: ; ' ' G:' > CG :C 8 :' ' G:' BB9 >6' H> >C:B' G:' 8 9' C 6

sidered, very little need be said on the subject of their other buildings.

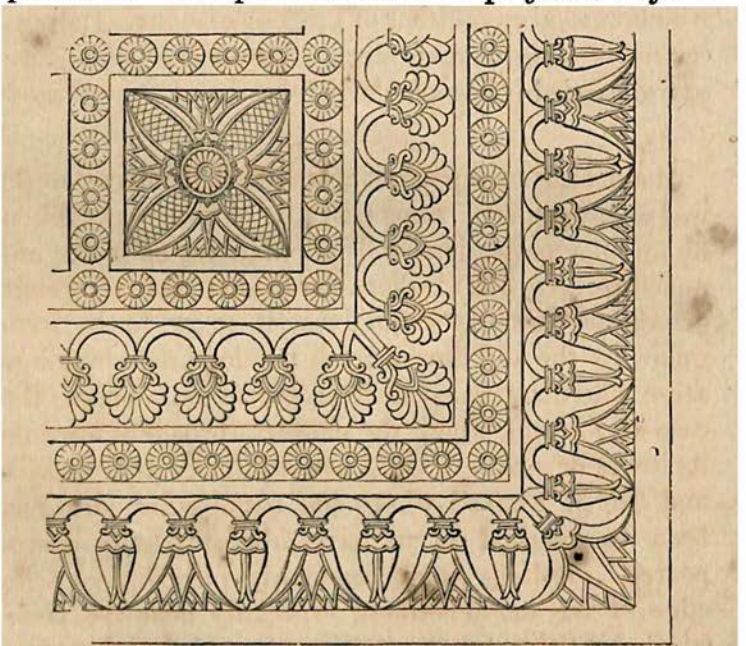
The Assyrian palace stood uniformly on an artificial platform. Commonly this platform was composed of undried bricks in regular layers; but occasionally the material used was merely earth or rubbish, excepting towards the exposed parts—the sides and the surface—which were always either of brick or of stone. In most cases the sides were protected by massive stone masonry, carried perpendicularly from the natural ground



Terrace-wall at Khorsabad.

to a height somewhat exceeding that of the platform, and either made plain at the top or else crowned with stone battlements cut into gradines. The pavement consisted in part of stone slabs, in part of kiln-dried bricks of a large size, often as much as two feet square. The stone slabs were sometimes inscribed, sometimes ornamented with an elegant pattern. (See next page.) Occasionally the terrace was divided into portions at different elevations, which were connected by staircases or inclined planes. The terrace commu-

nicated in the same way with the level ground at its base, being (as is probable) sometimes ascended in a single place, sometimes in several. These ascents were always on the side where the palace adjoined upon the neighbouring town, and were thus protected from hostile attack by the town-walls. Where the palace abutted upon the walls or projected beyond



Pavement-slab, from the Northern Palace, Koyunjik.

them—and the palace was always placed at the edge of a town, for the double advantage, probably, of a clear view and of fresh air—the platform rose perpendicularly or nearly so; and generally a water protection, a river, a moat, or a broad lake, lay at its base, thus rendering attack, except on the city side, almost impossible.

The platform appears to have been, in general

‘ ’ ‘ % .j"

BG>H:’ >’ :C >G :’ ’ FG: :’ ’ G>;’ ; : :6’ : :A>P
6B’ ’ G>A:’ @::6’ C ?H B:;’ ’ :C >6 :B’ G:’
? 86;’ ’1G B>@>;’FG CG’ B’ ’ G B’ > :’CG> >C :’
:B:?@ :B’ >’ >6 C’

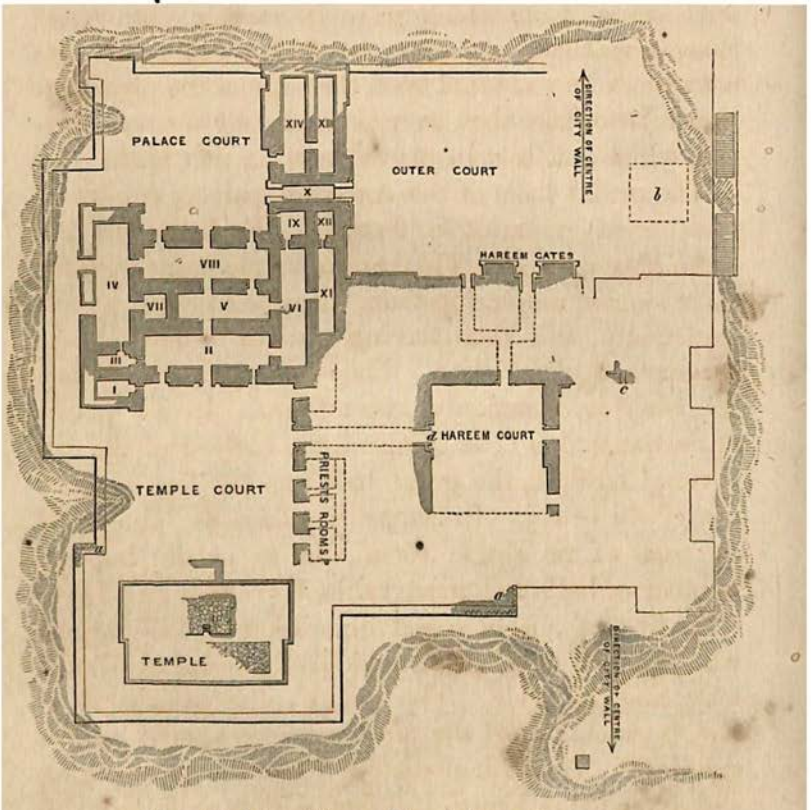
/2?>:’ >::@4>

>:
>::@4>

*’?8B’6 ’@:’B8HH B:;’G F:A: ’ G>’ G:’ :C >6 :’
F>B’ > F>9B’:D>C ’ ?: ?:B’ B’ 8 6:’F>B’@ :6’
@9’>6 8 > ’H J:C 6B’>6;’ 6;:6 > 6B’>B’ 6’ G:’>6P
6:D:;’H >6’NH’.j-S ’FG: :’ G:’BG>;:;’H> B’ :H :B:6’
>C 8>’ ; BC A: :B’ ?: ?:B’ ’ :F’ ’ G:’ :P
8 > ’@9’ G:’>;; 6’ ’ :BG’H 6B’>B’6:F’ 6 B’
> B:’FG ’;: : ? 6:;’ 6’ :BG’: :C 6B’ G B’ B’ G:’
C>B:’>’ ? 8;’FG: :’ G:’H > ?’@ >;:6B’ F> ;B’
B’ F:’ ’B 8 G: 6’: 9 Z’>6;’B ’? :’>’1 986J ’
>6;’ :@@’ 868B ^’ FG: :’ G:’ :C >6 8 > ’ ;:>’ G>B’
@::6’ B’ A: > ;’ >B’ ’ G>A:’ > ? B’ FG 9’ ; B>HP
H:> :;’ > >C:B’ F: :’ C ?? 6 9’ H >C:;’ 6:>’ 6:’
:; :’ ’ G:’ ? 86; (? :’ :BH:C > 9’ 6:>’ G:’ A:’
:; :(H @>@ 9’ ’ G:’@: :’:6J 9?:6’ ’ G:’H BP
H:C ’>6;’ ’ G:’C ’> ’ A:’ G:’F> :
G:’H> >C:’ B: ’F>B’C ?H B:;’ ’ G ::’?>6’ : :P
?:6B’C 8 B’ >6;’ G> B’>6;’B?> ’H A> :’ >H> P
?:6B’ ’H> >C:’G>B’ B8> 9’ ?’ F ’N* S8’C 8 B’
FG CG’ > :’: G:’B78> :’ ’ @ 6 ’>6;’A> 9’ 6’B `:

’ G:’H>6’ B’@ F:;’@9’H: P &',+*&',’ 3+ 5, ' *’ &*0’ *0,*'&' *’
?BB 6’ ?’% ’ 8BB 6<’:DC: ’ ’ / "*0’ & ’ *’ '!,’ ,+ ,3 '&*’
’:6’F ’E ’$ ’ ’(’ 3&'/ +#’6 ,’3’ TK
& ’$ 5 . ’N ,’ %’ : ’ # :’ G:’H>6’B8H >’H’-j"
8BB 6’ :?> B’ G>’ GB’ :>8 :’ Z’ :’>@ A:’H’."5

according to the general scale of the building. In the north-west palace at Nimrud, the most ancient of the edifices yet explored, one court only has been found, the dimensions of which are 120 feet by 90. At Khorsabad, the palace of Sargon has four courts.



Plan of the Palace of Sargon, Khorsabad (after Fergusson).

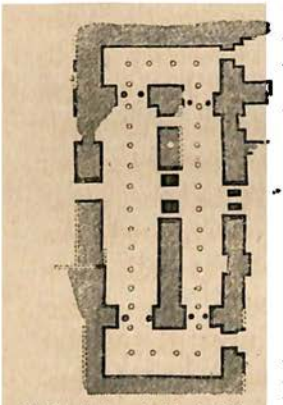
Three of them are nearly square, the largest measuring 180 feet each way, and the smallest about 120 feet; the third is oblong, and must have been at least 250 feet long and 150 feet wide. The palace of Sennacherib at Koyunjik, a much larger edifice than the

H> >C:' ' > 6' G>B' > B ' G : :' C 8 B' FG CG' > :' :BH:C A: 9' X.' : : ' @9' +\ ' "-\' : : ' @9' X, ' >6;' "j \' : : ' @9' "-j ' B> G>; ; 6<B' H> >C:' > ' ? ? ;' G>B' >' C 8 ' --,' : : ' 6 ' >6;' ", ,' F ; : < G:B:' C 8 B' F: :' > ' H>A: ;' : G: ' F G' @> : ;' @ C B' ' > :' B `: ' ' F G' B 6:' B >@B' F CG' F: :' :78:6 9' H> : 6: ; ^' ?: ?:B' G:' C 8 B' F: :' B8 6; : ;' F G' @8 ; 6 B' 4 B ?: ?:B' G:9' >@8 : ;' 8H 6' G:' : ; :' ' G:' H > ?') 6' G B' > : ' C>B:' G:9' F: :' H :C : ;' @9' >' B 6:' H> >P H: ' FG CG' N> ' :>B ' 6' H >C:BS' F>B' B D' : : ' G G G:' >6;' G> B' ' G:' BB9 >6' H> >C:B' C 6B 8 :' G: ' ? B ' :?> >@ :' :> 8 : ' >CG' H> >C:' G>B' C ? ? 6 9' B:A: > ' G:9' > :' >H> ?:6 B' 6> F' ' G: ' :6 G ' ? :>B8 6 ' ?' G : : ' ' A:' ?:B' G: ' F6' F ; G ' >6;' G8B' G>A 6 ' > F>9B' B ?:FG>' G:' >HH:> >6C:' ' > : :B ' G:' BC> :' 8H 6' FG CG' G:9' > :' @8 ' B ' C ? ? 6 9' ?> 6 C:6 ' 6' G:' H> >C:' ' > ;>6>H> 8B' ' > ' ? 8; ' G:' :> :B ' ' G:' ; BP C A: :;' : ; C:B ' :' :> ' G> ' F>B' "5,' : : ' 6 ' @9' 6:> 9' \,' @ >; ' 6' > 6<B' H> >C:' > ' 1G B>@>;' G:' B `:' ' 6 ' B 6 :' ?' F>B' B ' :> 4' @8 ' G:' 68?@: ' 'G> B' F>B' :?> >@ :' G: :' @: 6 '6 ' :F: ' G>6' A:' ' 6:> 9' :78>' ; ?:6B 6B' G:' > :B ' F>B' ""5' : : ' 6 ' >6;' . .' F ; :4' G:' B?> :B ' +[' : : ' 6 ' >6;' -j' F ; : ' G:' H> >C:' ' :66>CG: @' > ' 1 986J ' C 6 > 6: ;' G:' ? B ' BH>C 8B' >H> ?:6 ' 9: ' :DG8?: ; ' ' F>B' ? ? : ; > : 9' 6B ; :' G:' :> 'H > ' >6;' :D :6; : ;' 6' :6 G' "+,' : : ' F G' >' 86 ?' F ; G' ' \,' : : ' 6' 6:' 6 >6C:' 6 9 ' B ' > ' >B' >HH:> B' F>B' >6' > : ?H ' ?>; :' ' :DC: : ;' G B' F ; G 2 6' G:

% ' >9> ;' C> B' G B' C 8 ' >' F6' H >6B' ' 1 986J ' F G 8' K' G> 'L' # (' ' 2 " H' B: : 6 ' >' 6C:' G>' G:' :>' BH>C:' j \5 4 @8 ' 6 ' 6:' C>6' C ?H> ' G B' B' :> 9' >6' 66: ' C 8 ' & F' ; :B' * >6' ' B> G>; ; 6<B' ? 8; ' H>P % ' >9> ;' B8HH B:' G>' G B' K' G> L' >C:' N ' . ' HH' H ' 5jj5' F G' %' 6:' G86; : ;' : : ' F ; : ' F>B' :;' 3 $ >B' H >6B' ' 1G B>@>; ' >6;' G B # :C' G:' F ;C8 ' 6' H' . j ,

' ' -'

palace of Esar-haddon, the son of Sennacherib, a hall was designed, intended to surpass all former ones. Its length was to be 165 feet, and its width 62; consequently it would have been nearly one-third larger than the great hall of Sennacherib, its area exceeding 10,000 square feet. But the builder who had designed this grand structure appears to have been unable to overcome the difficulty of carrying a roof over so vast an expanse. He was therefore obliged to divide his hall by a wall down the middle; which, though he broke it in an unusual way into portions, and kept it at some distance from both ends of the apartment, still had the actual effect of subdividing his grand room into four apartments of only moderate size. The halls were paved with sun-burnt brick. They were ornamented throughout by the elaborate sculptures, now so familiar to us, carried generally in a single, but sometimes in a double line, round the four walls of the apartment. The sculptured slabs rested on the ground, and clothed the walls to the height of 10 or 12 feet. Above, for a space which we cannot positively fix, but which was certainly not less than four or five feet,[9] the crude brick wall was continued, faced here with burnt brick enamelled on the side towards the apartment, pleasingly and sometimes even brilliantly coloured.[1] The whole height of the walls was probably from 15 to 20 feet.



Hall of Esar-haddon's Palace, Nimrud.
(Scale of 10 ft. to an inch.)

[9] As much as four feet of the wall has sometimes been found standing (Fergusson's *Palaces*, p. 267).

[1] See the specimens of enamelled bricks in Mr. Layard's *Monuments of Nineveh*, 1st Series, Plates 84 to 86.

$9' G:'B ;:' ' G:'G> B' '>' G: ':6;B'>6;' H:66H4 '
6 ' G:?' 'B ?: ?:B'C :C :;' : G:' 6 ' 8HB'
F G'6 'G> '6:> '> :' G:' B?> :' CG>?@: B' 'FG CG'
?:6 6'G>B'@::6'> :>;9'?>;:' G:B:'CG>?@: B'> :'
6':A: 9'C>B:' :C >6 8 >]j 6' G: 'H H 6B' G:9'
A> 9' ?'B78> :B' '6> F' @ 6 B'X,' ::'@9'"['+j'
@9'"5'+,'@9'"j'>6;' G:' :' 0 G:6' G:9'> :'B78> :'
G:'B ;:' B'6:A: ' ? :' G>6'>@ 8'-j' :: ' G:9'> :'
:6'>B' CG 9';:C > :;'>B' G:'G> B'@8'B ?: ?:B'> :'
?: :9' >C:;' F G' H > 6' B >@B' ' H >B : :;4' FG :'
CC>B 6> 9' G:9' G>A:'6 ' >C 6 ' > ' > ' G8 ' :DG @ '
G 8 G 8 ' G:'C 8;:'@ C2 ' G B'G F:A: ' B'868B8>
G:'68?@: ' 'CG>?@: B' 6'>'H> >C:' B'A: 9' :> '
6' :66>CG: @<B' H> >C:' > ' 1 98GJ ' FG: :' :> '
H> ' ' G:' @8 ; 6 ' :?> 6B' B ' 86:DH :;' G:'
:DC>A> :;'CG>?@: B'>? 86' 'B D 9 : G (> '@:' '
:?:?@: :;' 8H 6' G:' 86;' ' G:' BH>C:'
C A: :;' @9' G:?'>6;'@9' G: ' F> B' :DC::;B'",,,,,'
B78> :29> ;B' B'% ' : 8BB 6' @B: A:B' K' G:' ?P
H: >'H> >C:' ' :66>CG: @' B' '>' G:'@8 ; 6 B' '
>6 78 9'B8 H>BB:;' 6' ?> 6 8;:' 6 9' @9' G:' :> '
H> >C: :?H :' ' 1> 6> '4 >6;'FG:6'F:' C 6B ;:' G:'
A>B 6:BB' ' G:' ? 86;' 6' FG CG' 'F>B' > B:;'>6;' G:'
CG6:BB' ' G:' 6>?:6 B'F G'FG CG' 'F>B'>; 6:;'
' B'@9'6 ' ?:>6B'C :> ' G>' ' F>B'6 '>B' :> ' '>'
:>B'>B':DH:6B A:'>'F ' >B' G:' :>'H> >C: :?H :'
>' G:@:B L'# B:FG: :' G:':DC>A> :;'>H> ?:6 B'> :'
:BB'68?: 8B4 @8' 6'6 'C>B:' B' 'H @>@ :' G>' >'
H> >C:'C 6 > 6:;' 6' B' 86;' ' :F: '2 G>6' 9'
' 9'CG>?@: B

G:' ? B'B 6 'H:C8 > 9'FG CG' G:' 86;'
H >6B' ' G:'H> >C:B';BC B:' B' G:'86 ?'>; H 6

G 8 G 8' 'B > G' >6;' H> > :' 6:B' <' H >6' :DG @ B' >' C8 A:' ' >69' 6;' ' >69' >6 :' @8' >' G' >6 :' 8 B' CG>?@: B' >6;' G> B' > :' 6' ? B' C>B:B' :D>C' :C >6 :B4' >6;' :A:6' FG: :' >69' A> : 9' CC8 B' ' B' 6 9' @9' G:' 6 ;8C 6' ' B78> :;' :C:BB:B' ' H J:C 6B' FG CG' > :' ? : A:' BG> F' >6;' 6 :78:6 ' 0 G:6' >' H> >C:' G>B' B' F6' BH:C >' H > ?' G:' 6:B' ' G:' @8 ; 6 ' > :' 8 G:' :D>C 9' H> > :' IF G' G B:' ' G:' ? 86;' 6' FG CG' ' B' H >C:2;'4 >6;' G:' H> > : B?' :D :6;B' ' >69' G:' ;: >CG:;' @8 ; 6 B' G>' G: :' ?>9' @:' >69FG: :' 8H 6' G ' H > ? ^' 0 G:6' >' ? 86;' B' CC8H :;' @9' ? :' H> >C:B' G>6' 6:' B ?: ?: ' G B' >F' B ' @ > 6B' >B' >' 6 8; # FG: :' ' B:: ?B' ' :?@ >C:' >' >69' > :' G:' :> : ' 68?@: ' ' G:' H> >C:B'4 B ?: ?:B' >B' >' 1 986J ^' G:' 8 :' C:>B:B' ' @:' @B: A:;' >6;' G:' 86; H >6' ' :>CG' H> >C:' B:: ?B' ?:;' B:H> > : 9' >6;' 6;:H:6;:6 9' F G' 6 ' : : P :6C:' ' >69' 6: G@ 8 6 ' :; C:

H> ' ?' G B' :> 8 :' G:' @8 ; 6 B' ;@' 6 ' > :C' ?8CG' : 8 > 9 # 6' C 8 B' >6;' >z>;:B' ' >' C: > 6' :D :6 ' G: :' B' C :BH 6;:6C:'4 @8' 6' G:' 6 : 6>' > >6 :?:6 B' : 8 > 9' B' ;:C ;:; 9' G:' :DC:H 6' G:' F ' B ;:B' ' >6' :; C:' 6:A: ' C :BH 6;'4 ?' 6:A: ' >6BF: B' ' ?'4 ; P F>9B' > :' > : 9' 6' V4 :' ? ;; :' ' F> B'} FG: :' >' ?' G>B' B:A: >' ; F>9B' G:9' > :' B: ; ?' HH

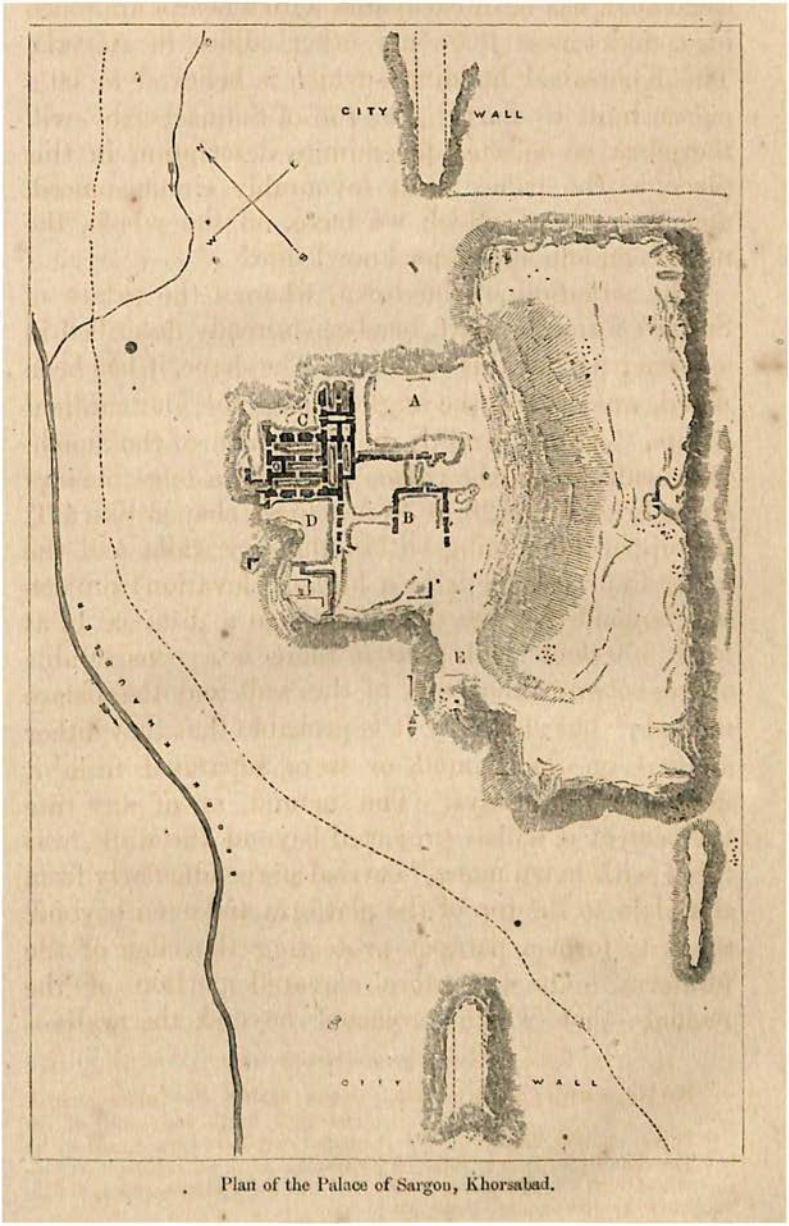
U :' G:' H >6' ' > 6&' H> >C:' : 8 > 'B ' G>' % ' >9> ;&' :H :P >' 1G B>@>;' B8H >' H' .j- B:6 > 6' C>66 '@:' FG 9' 8B :;
#' :' G:' H >6' ' G:' ? 8;' H > P ?' 6' >9> ;&' (' '2 ` 2' G:' F> B' ' G:' H> >C:' :DC>P A> :;' @9' % ' 8G' > :' 6 'H> > :' ' HH' H' 5jj' CC ; 6 ' ' ' ' HH' G:' :; C:' :DG8?:;' @9' N' G:' H> >C:B' 6' G:' H > ?' F 8 ;' % ' >9> ;
G>A:' G: ' F> B' H> > :' ' 6:' >6P K ?H> :' G:' @B: A> 6B' '%' G: ' >6;' ' G:' B ;:B' ' G:' H > P $ >' K ! ' ' (2' A 'A' ?'4 @8' >H > 6' * 6:B&' B8 A:9' H' 5\
BG FB' G>' G:' H > ?' B: ' B' P

& ' ' $ (0 ' ' .j[

B :' ' 6:' >6 : ' ' 6' B 8> 6B' > ' > ' C :P
BH 6; 6

G: :'<B' >' :> ' >F F> ;6:BB' 6' G:' C ? ?86 C>P
6B' ' : 9' :F' C ; B' 'H>BB> :B' :D B ' 6' >69' '
G:' @8 ; 6 B' 8HB' ' ?B' :6' >? 86 6 ' '
:6' ' F: A: ' H:6' 6 ' 6:' >6 G: '4 >6;' F:' 6;'
C ?H> > A: 9' :F' 6B' 'FG CG' G: :' B' >69' >CC:BB'
:DC:H ' G 8 G' B ?:' G: ' ? ' > 6 ' FG :' B: B'
' >H> ?:6 B' > :' B ?: ?:B' 86; ' @: F::6' FG CG'
>6;' G:' :B ' ' G:' H> >C:' > ' C ? ?86 C> 6' B' C8 '
' @9' G C ' F> B' 6 G: ' H:C8 > 9' 6' G:' 6P
: 6> ' > >6 :?:6 B' B' G:' 68?@: ' ' ; F>9B' 6'
G:' > : ' >H> ?:6 B ' >6;' G: ' >HH> :6 9' 6::; :BB'
?8 H C> 6' 0 :' C 6B >6 9' 6;' F ' ' :A:6' G ::'
; F>9B' :>; 6 ' ?' >' C 8 ' 6 ' >' G> ' ' ?'
6:' G> ' 6 ' >' B:C 6; ' ' B' ; C8 ' ' B::' FG> '
C 8 ;' @:' > 6:;' @9' B8CG' >6' > >6 :?:6

G:' ; BH B 6' ' G:' A> 8B' H> B' ' >' H> >C:'
F ' H @>@ 9' @:' @: : ' >HH :G:6;:;' ?' >6' :D>C '
>CC ? ' ' >' B 6 :' @8 ; 6 ' G>6' ?' >69' 8 G: '
:6: > ' B > :?:6 B' ' G B' H8 H B:' ' B' 6:C:BB> 9'
' B: :C ' >' BH:C ?:6' ?' >? 6 ' G:' A> 8B' :; C:B'
G> ' G>A:' @::6' ; B:6 ?@:;' @9' G:' >@ 8 B' ' :C:6 '
:DC>A> B ' G:' BH:C ?:6' BG 8 ;' @:' 'H BB @ :' C ?P
H : :'4 ' BG 8 ;' G>A:' @::6' >CC8 > : 9' B8 A:9:; ' >6;'
G:' B8 A:9' BG 8 ;' G>A:' @::6 'BC :6 C> 9' :C ;:;'4
' BG 8 ;' 8 G: ' B >6;' B 6 :' >6;' B:H> > :' G> ' G: :'
?>9' @:' 6 ' ;>6 : ' 'C 6 8B 6' @: F::6' B' :?> 6B'
>6;' G B:' ' >;J>C:6 ' :; C:B ' G:B:' :78 :?:6 B '
G 8 G' 6 FG: :' :D>C 9' ?: ' > :' A: 9' 6:> 9' ?: '
@9' G:' @8 ; 6 ' > ' 1G B>@>; ' FG CG' B >6;B' 6' >'
? 86;' ' B' F6 '86? D:;' F G' G: ':; C:B' G>B' @::6'
? B ' C> : 8 9' :D>? 6:; ' >6;' ? B ' :DC: :6 9' :H :P
B:6 :;' >6;' ;:BC @:; ' >6;' FG CG ' G 8 G' 6 'C ?H : : 9



Plan of the Palace of Sargon, Khorsabad.

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Remains of Propylæum, or outer gateway, Khorsabad.

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@8 B' FG CG' B' 6:> 9' F:6 9' :: ' F>B' N ' B' H @>@ :S'
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A: 9' :D :GB A ' >H> ?:6 B' G:9' > :' :?> >@ :' '
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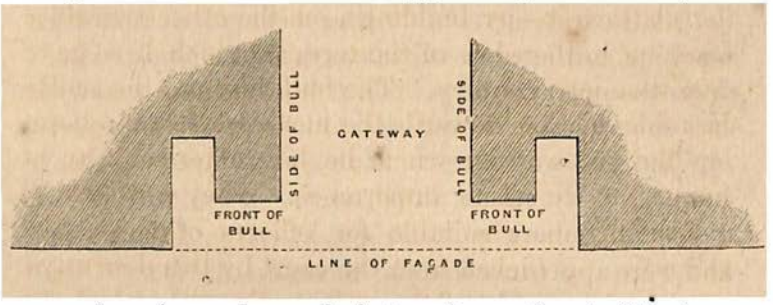
to the right, whereby entrance was given to the great court, into which opened the main gateways of the palace itself. The court was probably 350 feet long by 160 or 170 feet wide. The visitor, on mounting the steps, perhaps passed through another propylæum (*b* in the plan); after which, if his business was with the monarch, he crossed the full length of the court, leaving a magnificent triple entrance, which is thought to have led to the king's *hareem*, on his left, and making his way to the public gate of the palace, which fronted him when he mounted the steps. The *hareem* portal, which he passed, resembled in the main the great propylæum of the lower platform; but, being triple, it was still more magnificent, exhibiting two other entrances on either side of the main one, guarded each by a single pair of winged bulls of the smaller size. Along the *hareem* wall, from the gateway to the angle of the court, was a row of sculptured bas-reliefs, ten feet in height, representing the monarch with his attendant guards and officers.

King and attendants, Khorsabad.

The façade occupying the end of the court was of inferior grandeur. Sculptures similar to those along the *hareem* wall adorned it; but its centre showed only a single gateway, guarded by one pair of the larger bulls, fronting the spectator, and standing each in a sort of recess, the character of which will be best un-

derstood by the accompanying ground-plan. Just inside the bulls was the great door of the palace, a single door made of wood—apparently of mulberry[7]—



opening inwards, and fastened on the inside by a bolt at bottom, and also by an enormous lock. This door gave entrance into a passage, 70 feet long and about 10 feet wide, paved with large slabs of stone, and adorned on either side with inscriptions and with a double row of sculptures, representing the arrival of tribute and gifts for the monarch. All the figures here faced one way, towards the inner palace court, into which the passage led. M. Botta believes that the passage was uncovered;[8] while Mr. Fergusson[9] imagines that it was vaulted throughout. It must in any case have been lighted from above; for it would have been impossible to read the inscriptions, or even to see the sculptures, merely by the light admitted at the two ends.

From the passage in question—one of the few in the edifice—no doorway opened out either on the right hand or on the left. The visitor necessarily proceeded along its whole extent, as he saw the figures proceeding in the sculptures, and, passing

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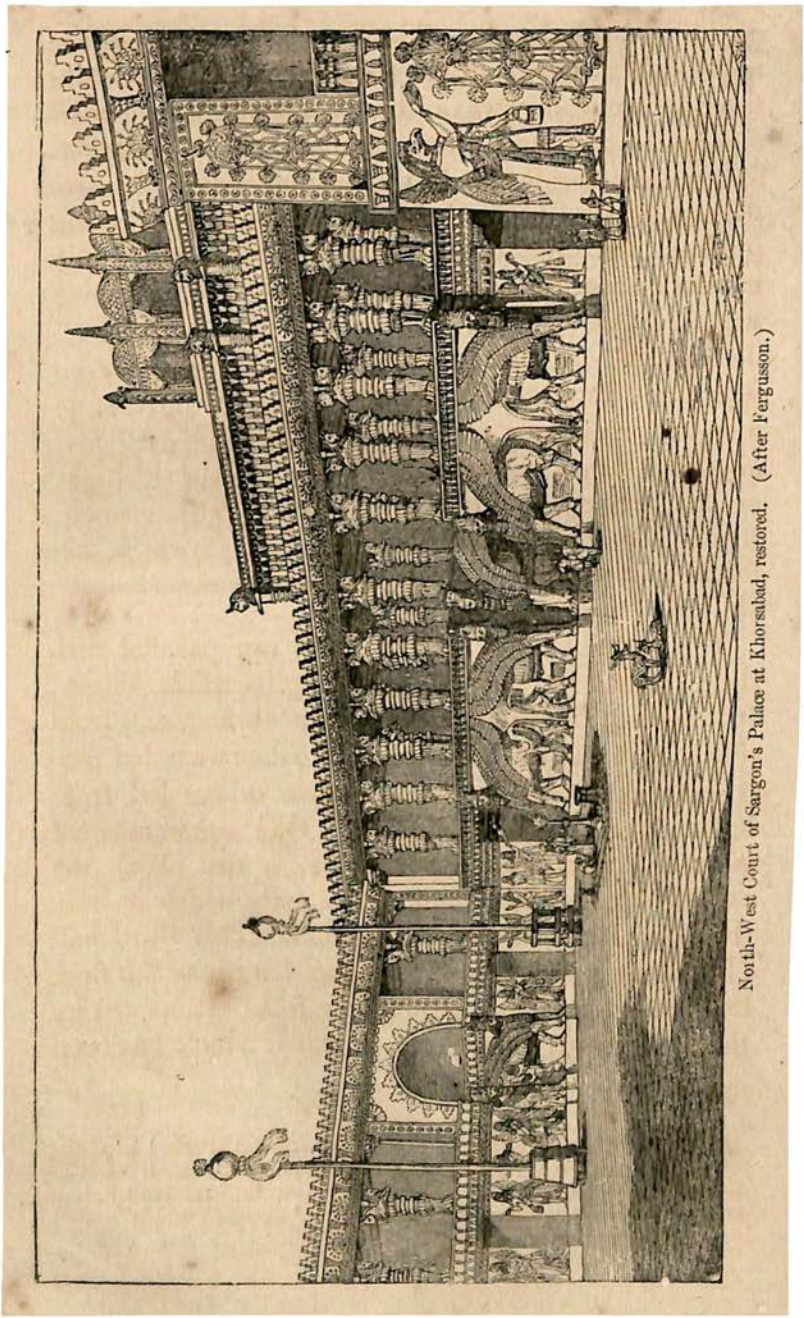
[7] Botta, *Monument de Ninive*, vol. v. p. 48.

[8] Ibid. p. 69.

[9] *Palaces of Nineveh*, p. 259.

G 8 G' >' B:C 6;' H > ' 86;' G ?B: ' 6' G:' :> ' 66: ' C 8 ' ' G:' H> >C: ' >' B78> :' '>@ 8 ' "j ,ℓ ' "5,' :: ' :6C B:;' 6' F ' B ; :B (G:' B 8 G :>B ' >6;' G:' B 8 G F:B (@9' @8 ; 6 B' 6' G:' G: ' F ' B ; :B' :>CG 6 ' ' G:' : ; :' ' G:' : >C: ' FG CG' G: :' >A:' 8H 6' G:' H:6' C 86 9' G:' @8 ; 6 B' 6' G:' B 8 GP :>B ' B ; : ' 6 ' _A> ;B' G:' 6 G F:B ' >6;' > ; J 6P 6 ' G:' > : F>9' @9' FG CG' G:' G>;' :6 : : ; ' F: :' ' C ?H> > A: 9' ? 6 ' ?H >6C: ' G:9' C 6B B : ;' ' >' :F' CG>?@: B' B8 >@ :' ' C: B' ' G:' C 8 ' >6;' F: :' >HH >CG: ;' ?' G:' C 8 '@9' F ' ; F>9B' 6:' G' : G: ' B ; :' ' G:' H>BB> :' G 8 G' FG CG' G:' G>;#C ?: ' ' G B' : ' 6 ' F> ;B' G:' 6 GP :>B ' F: :' G:' :> ' B > :' >H> ?:6 B' G:' H 6C H>' H> ' ' G:' H> >C: ' ? 6 ' >' >z>; : ' ' FG CG' B ?:' ; :>' ?>9' H: G>HB' G:' ?: ;' ?' G:' :H :B:6 > 6' A: :> ' G:' 8HH: ' H> ' ' G B' :H :B:6 > 6' B' 6; : : ;' H8 : 9' C 6J:C 8 >'4 >6;' FG:6' F:' C ?:' ' C 6B ; : ' G:' ? ; :' 6' FG CG' G:' BB9 >6' H> >C:B' F: :' :;'>6;' G : ; ' F:' BG> ' H: G>HB' 6;' :>B 6' ' : > ;' '>B' 6 'A: 9' 6:> ' G:' 8 G'4 G8 ' G:' F: ' H> ' 8H' ' G:' H' ' G:' BC8 H 8 :B' G:' C 8 ' B: ' >6;' G:' A> 8B' >CC:BB> :B' > :' C :C 9' A:6 ' >6;' 8 6 BG' G:' 6 9' 5 5 ' A : F' ' G B' H> ' ' G:' H> >C:' FG CG' G>B' @: : 6' >B' 9: ' H8@ BG: ;

G:' :> ' B > :' >H> ?:6 B' C 6B B : ;' ' >' B8 :' ' :6' ?B' A:' ' G:B:' F: :' G> B' H ' > :' ; ?:6P B 6B'4 6:' F>B' >' 6 ' >6;' B ?: FG> ' 6> F' CG>?@: ' >6;' G:' : ?> 6 6 ' 8 ' F: :' B78> :' 'B G 9' @ 6 ' >H> ?:6 B' ' ? 6 ' C 6B:78:6C: ' ' ' G:?' F: :' 6:;' G 8 G 8 ' F G' BC8 H 8 :B' G:' ? B ' ?H P >6 ' B: : ?' ' G>A:' @: : 6' G : :' G> B' ' ' N ' ' >6;' ' 6' G:' H >6S' FG CG' K' > : ' @ G' 6' G: ' :D : P 6> ' >6;' 6 : 6> ' ; :C > 6B ' @9' > ' G:' ? B ' BH :6; ;



North-West Court of Sargon's Palace at Khorsabad, restored. (After Fergusson.)

of the whole palace."[1] The first lay just within the north-east façade, and ran parallel to it. It was entered by three doorways, the central one ornamented externally with two colossal bulls of the largest size, one on either side within the entrance, and with two pairs of smaller bulls, back to back, on the projecting pylons; the side ones guarded by winged genii, human or hawk-headed. The length of the chamber was 116 feet 6 inches, and its breadth 33 feet. Its sculptures represented the monarch receiving prisoners, and either personally or by deputy punishing them.[2] We may call it, for distinction's sake, "the Hall of Punishment."

King punishing prisoners, Khorsabad.

The second hall (V. in the plan) ran parallel with the first, but did not extend along its whole length. It measured from end to end about 86 feet, and from side to side 21 feet 6 inches. Two doorways led into it from the first chamber, and two others led from it into two large apartments. One communicated with a lateral hall (marked VI. in the plan), the other with the third hall of the suite which is here the special object of our attention. This third hall (II. in the plan) was of the same length as the first, but was less wide by about three feet. It opened by three doorways upon a square court, which has been

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[1] *Palaces of Nineveh*, p. 261.

[2] In one case the monarch is in the act of driving a spear or javelin into the head of a captive with one hand, while with the other he holds him by a thong attached to a ring passed through his under lip. In another case an executioner flays a captive (or criminal) who is fastened to a wall.

called "the Temple Court," from a building on one side of it, which will be described presently.

The sculptures of the second and third halls represented in a double row, separated by an inscribed space about two feet in width, chiefly the wars of the monarch, his battles, sieges, reception of captives and of spoil, &c. The monarch himself appeared at least four times, standing in his chariot, thrice in calm

Sargon in his war-chariot, Khorsabad.

procession, and once shooting his arrows against his enemies. Besides these, the upper sculptures on one side exhibited sacred ceremonies.

Placed at right angles to this primary suite of three halls were two others, one (IV. in the plan)[3] of

[3] This hall opened on the north-western terrace, and stood so near its edge that two of its sides have fallen away. Internally it was adorned with a single row of sculptures, representing the king receiving prisoners.

; ? :6B 6B' : ' ' >3 > ' 6 : ' ' G B:' ' G:' > :B 'N ' S ' G:' G: 'N ' ' 6' G:'H >6S ' 6:> 9' ' G:' B>? :' :6 G ' Y@8 ' >B' 6> F' >B' G:' 6> F:B ' ' G:' G : :' N ' ' S ' ' G:B:' F ' > : > ' G> B' G:' h ?: ' C ? ?86 C> : ; ' ; :C 9' F G' ' > B '@9' >'6> F' H>BB> :' ?' N ' 6' G:' H >6S F G' ' ' G:' G: ' G>;' ; :C ' C ? ?86 C> 6' @ G' F G' ' ' :6;' ' ' 4' @8 ' 6 6:' F G' ' ' ' 0 G' G B' G> ' N ' S' G : :' B ? > : 'CG>?G: B' F: :' C 66:C : ;' N B' / ' / ' >6;' / S'4 F G' G:' G: ' > : > ' G> ' F ' 6 9' N B' ' >6;' ' #S# CG>?@: ' > >CG: ;' ' G B' @ C ' '@8 ; 6 B' N ' 6' G:' H >6S ' H:6: ;' H 9' 6' G:' : ?H :' 8 ' ' G>B' @: :6' B8 :B : ;' G> ' 'C 6 > 6: ;' >' B > C>B:' @8 ' ' G B' G: :' B' 6 ' :A ; :6C:

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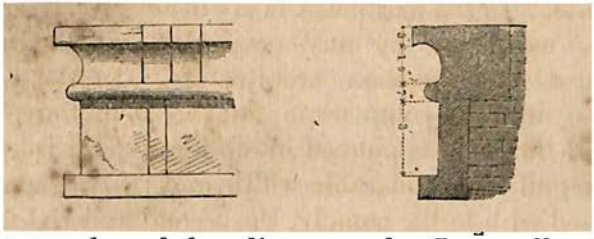
was faced, probably throughout its whole extent, with a solid wall of hard black basalt, ornamented with a cornice in grey limestone, of which the accompanying woodcuts are representations. Above this



the external work has disappeared. Internally, two chambers may be traced, floored with a mixture of stones and chalk; and round one of these are some fragments of bas-reliefs, representing sacred subjects, cut on the same black basalt as that by which the platform is cased, and sufficient to show that the same style of ornamentation prevailed here as in the palace.

The principal doorway on the north-west side of the Temple Court communicated, by a passage, with another and similar doorway (*d* on the plan), which opened into a fourth court, the smallest and least ornamented of those on the upper platform. The mass of building, whereof this court occupied the centre, is believed to have constituted the *hareem* or private apartments of the monarch.[7] It adjoined the state apartments at its northern angle, but had no direct communication with them. To enter it from them the visitor had either to cross the Temple Court and proceed by the passage above indicated, or else to go round by the great entrance (X. in

[7] Fergusson, *Palaces of Nineveh*, p. 254; Layard, *Nineveh and Babylon*, p. 646.

' @:' G H: ;' G> ' 8 8 :' :DC>A> B' F ' ; :C ' G: ' : B' ' G B' :>B 9' > > 6>@ :' >6 ;' 6 : :B ' @J:C

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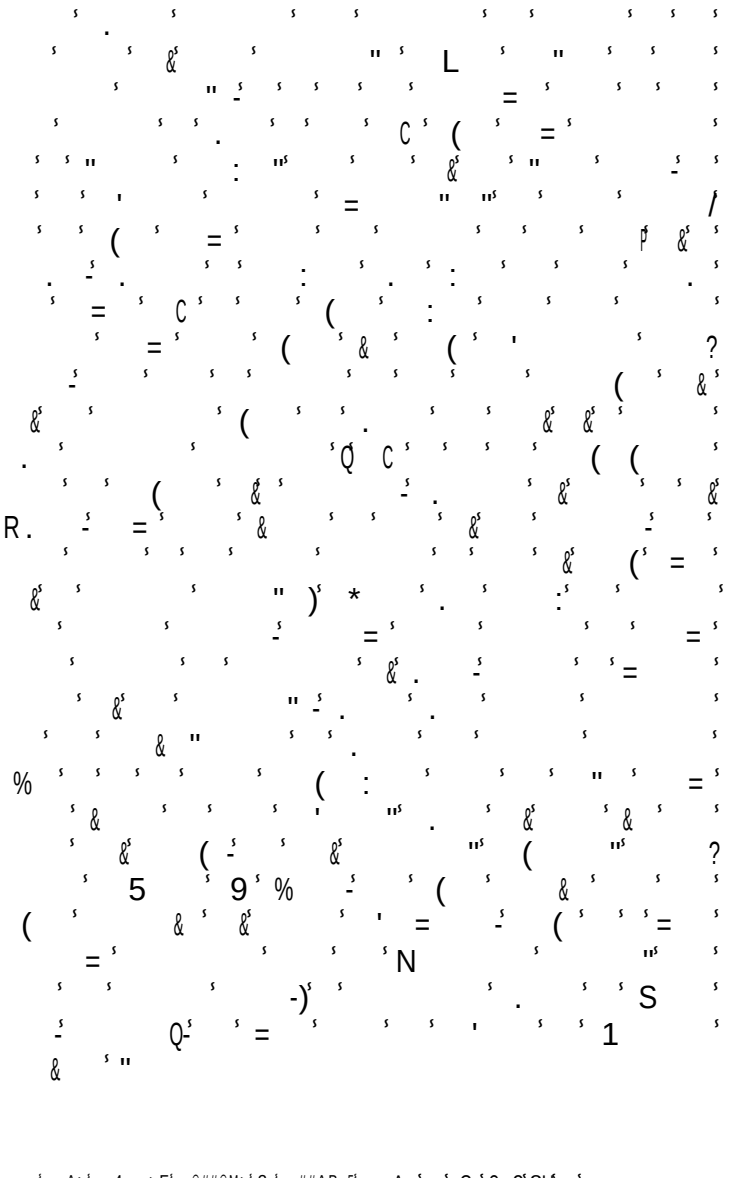

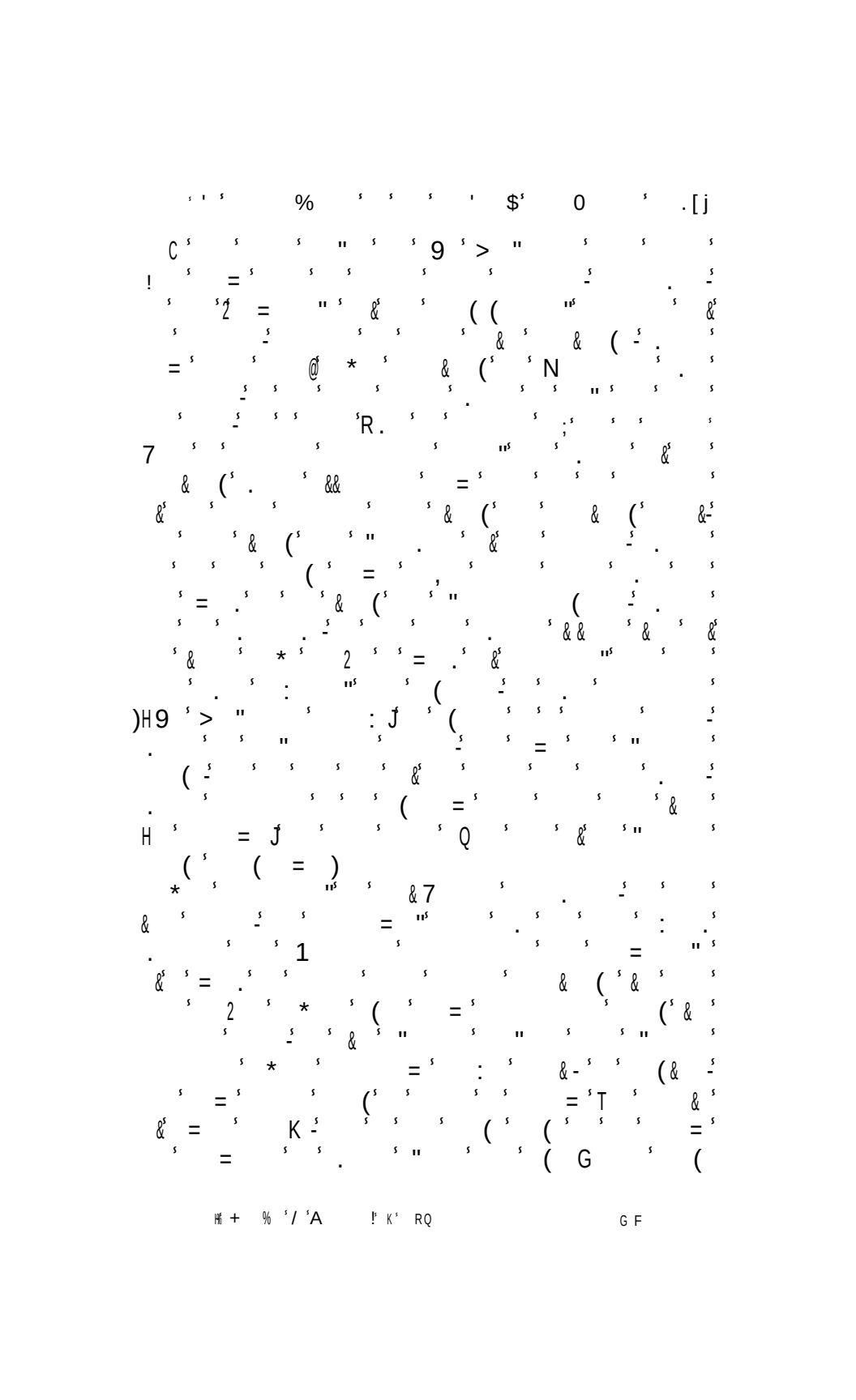

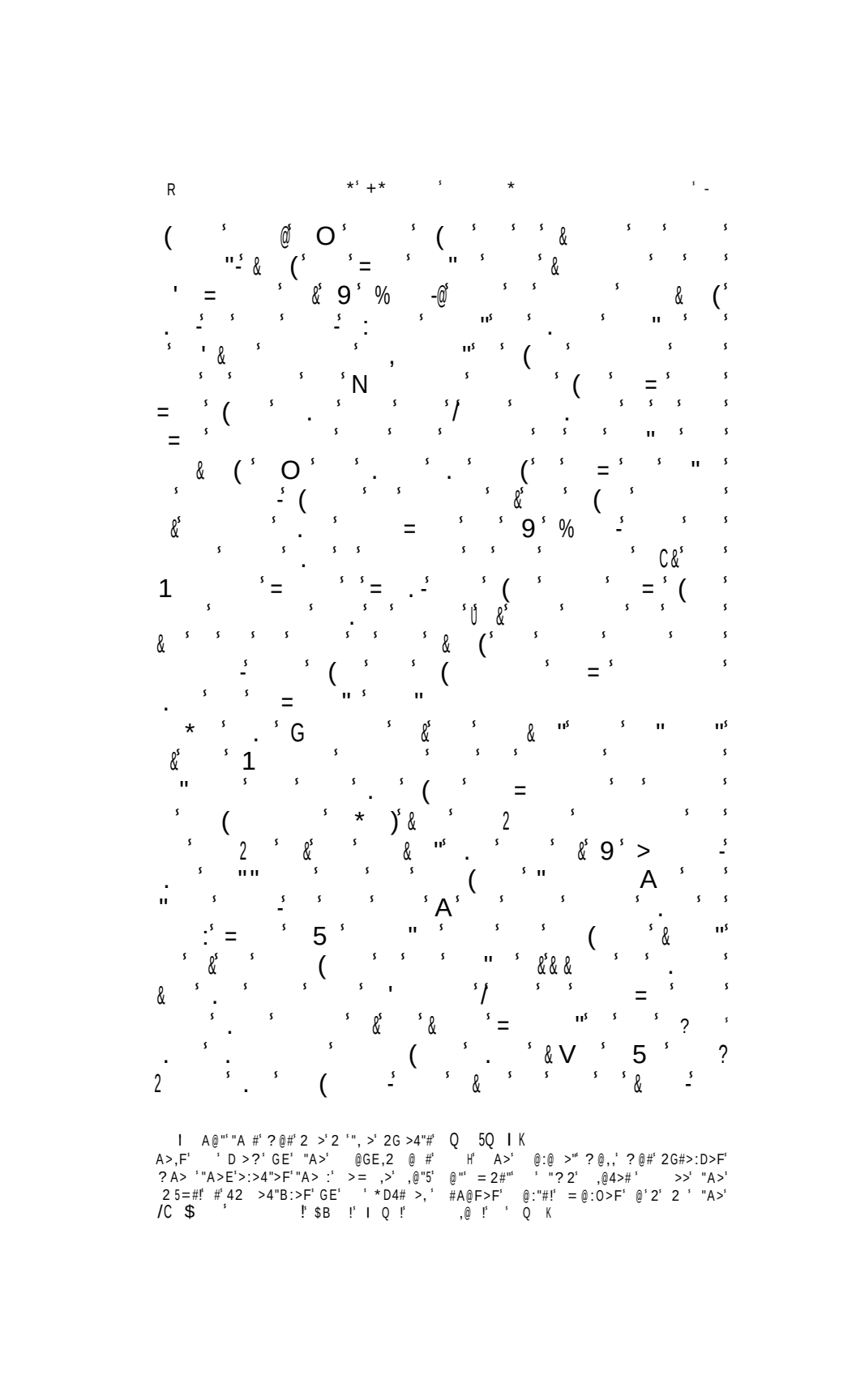

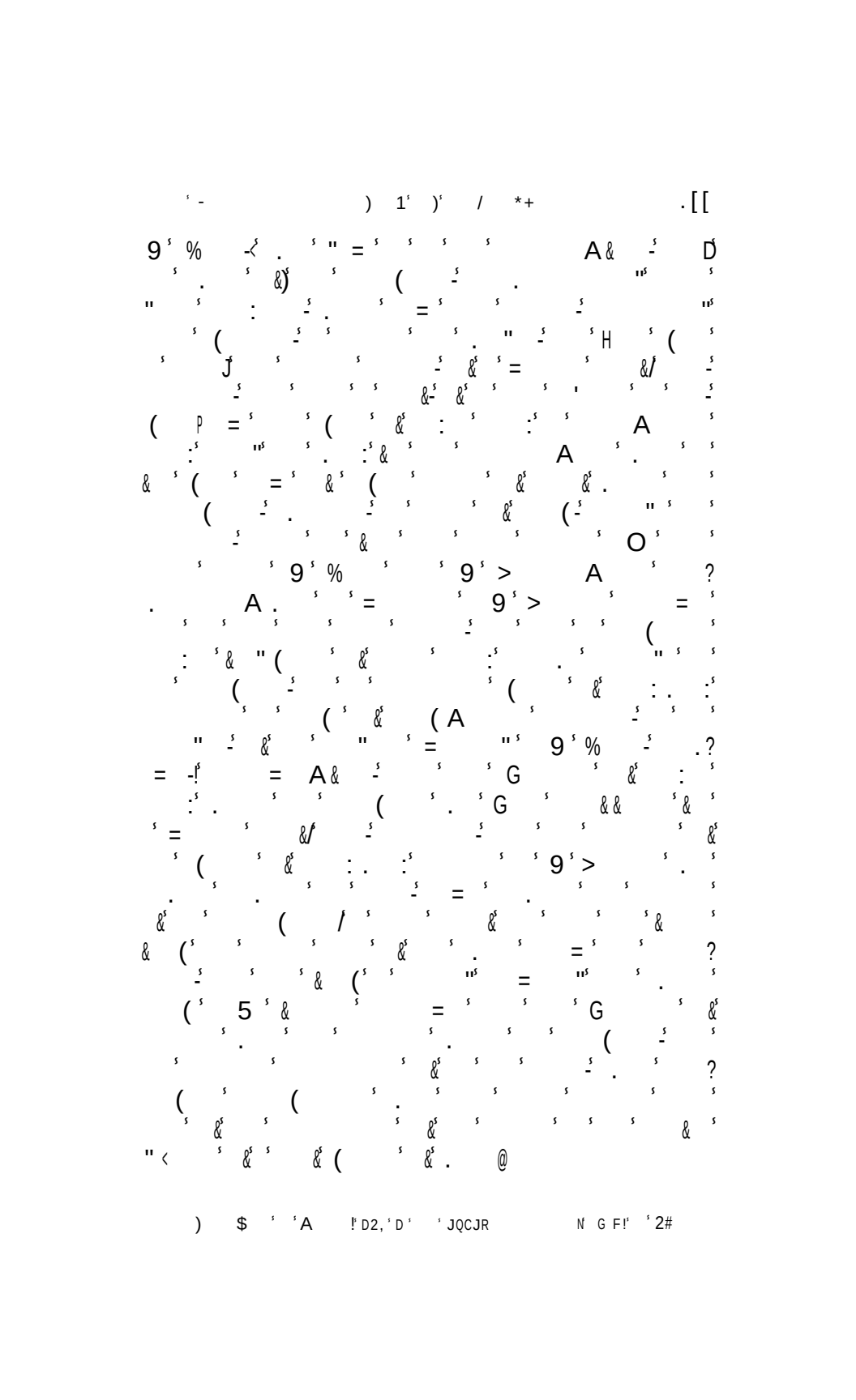

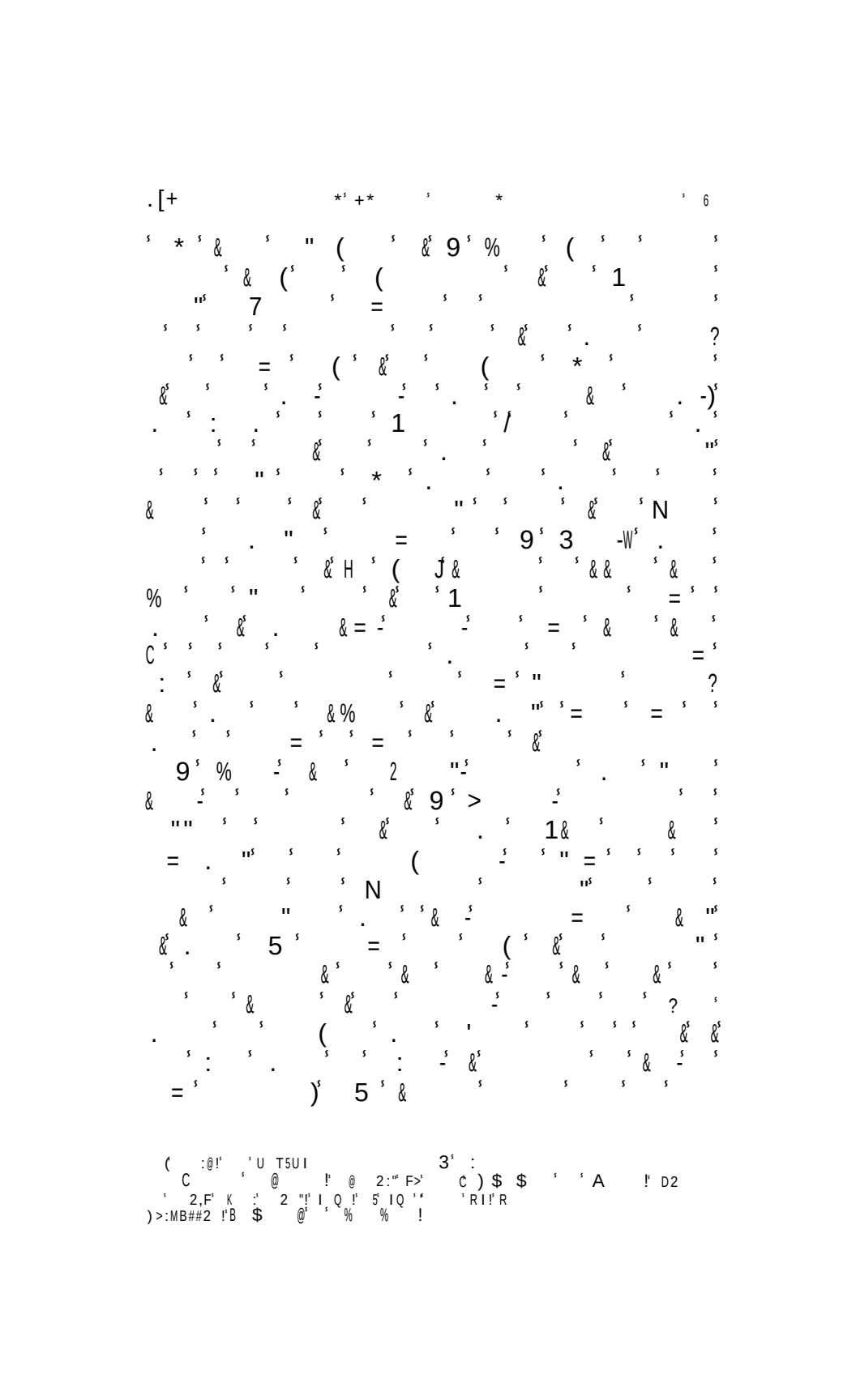

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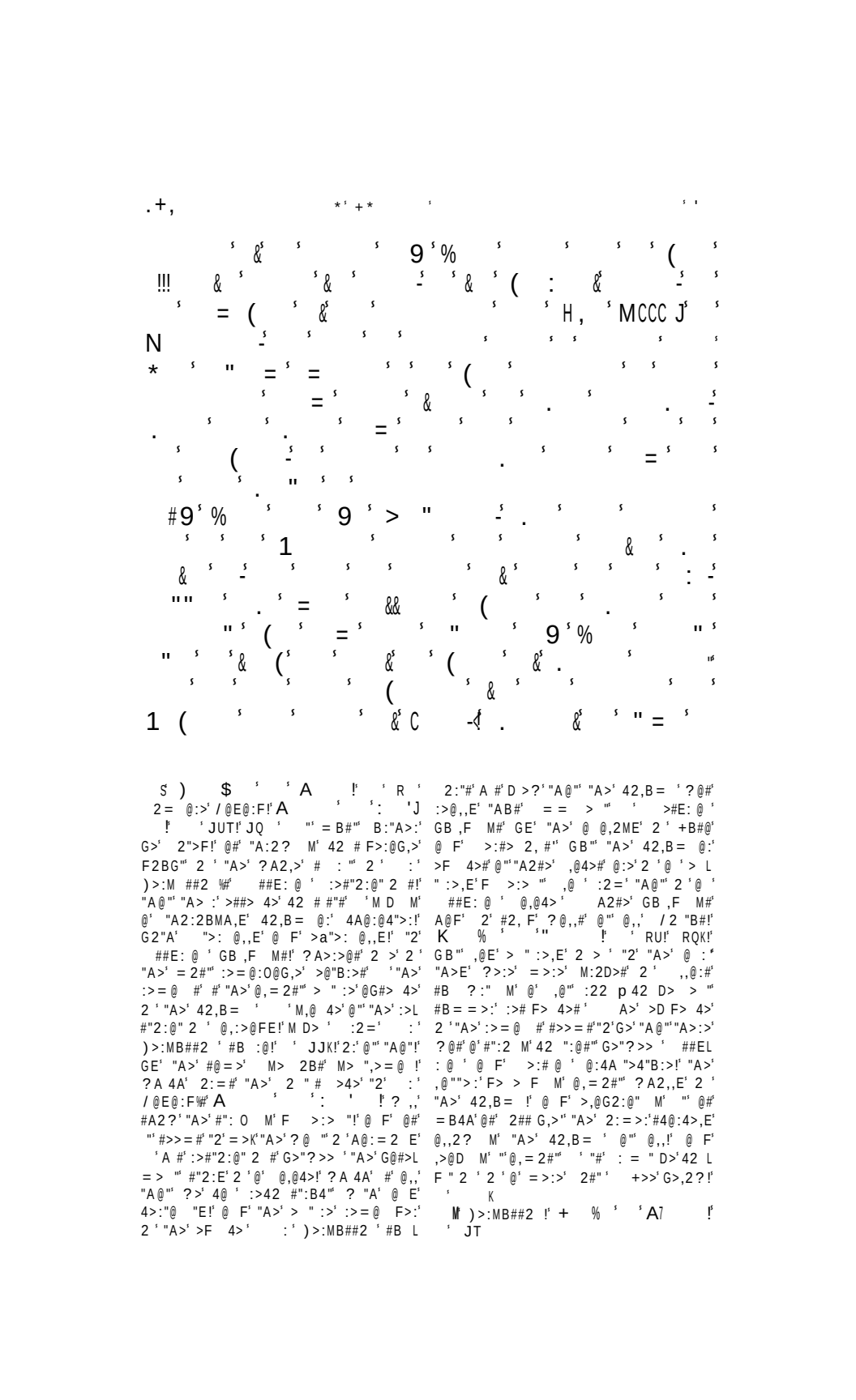
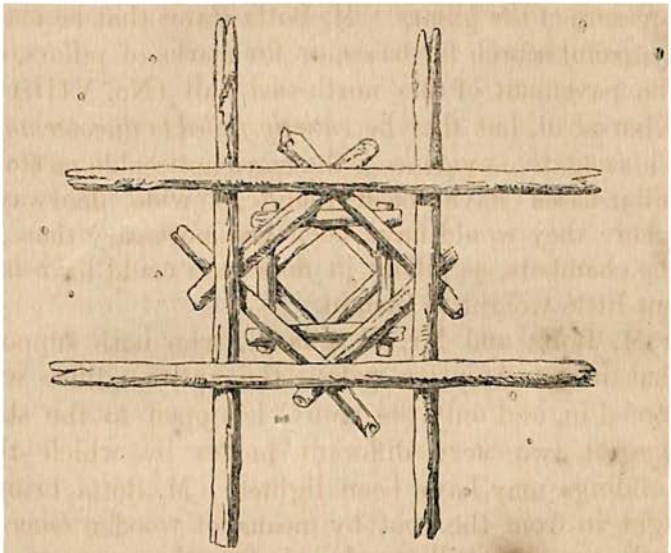
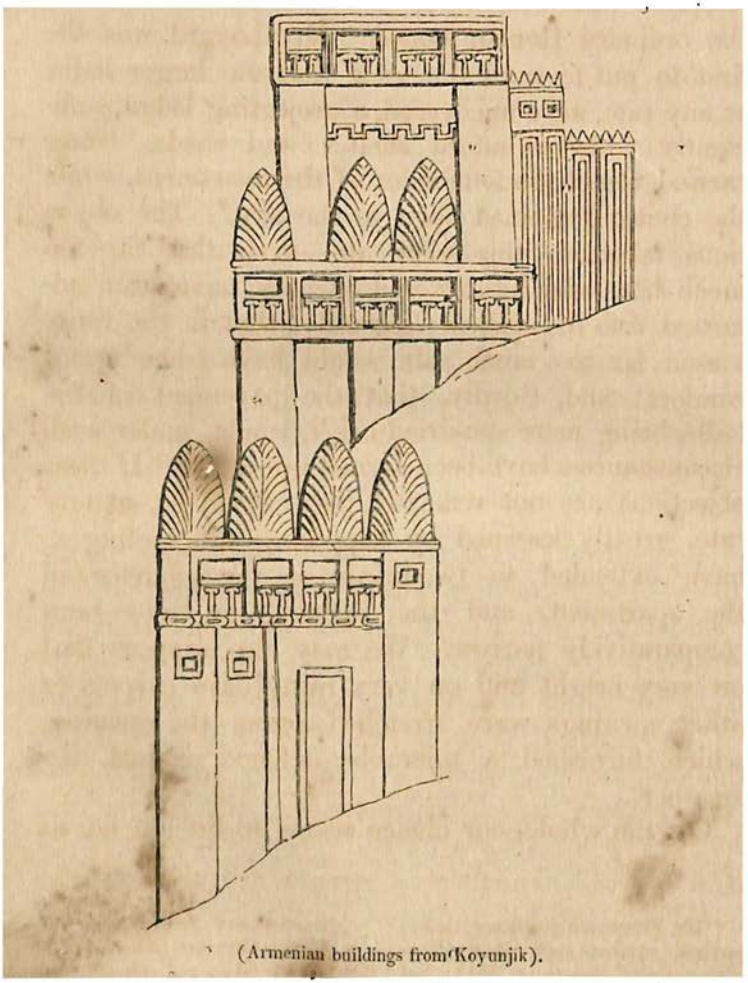




Armenian *louvre* (after Botta).

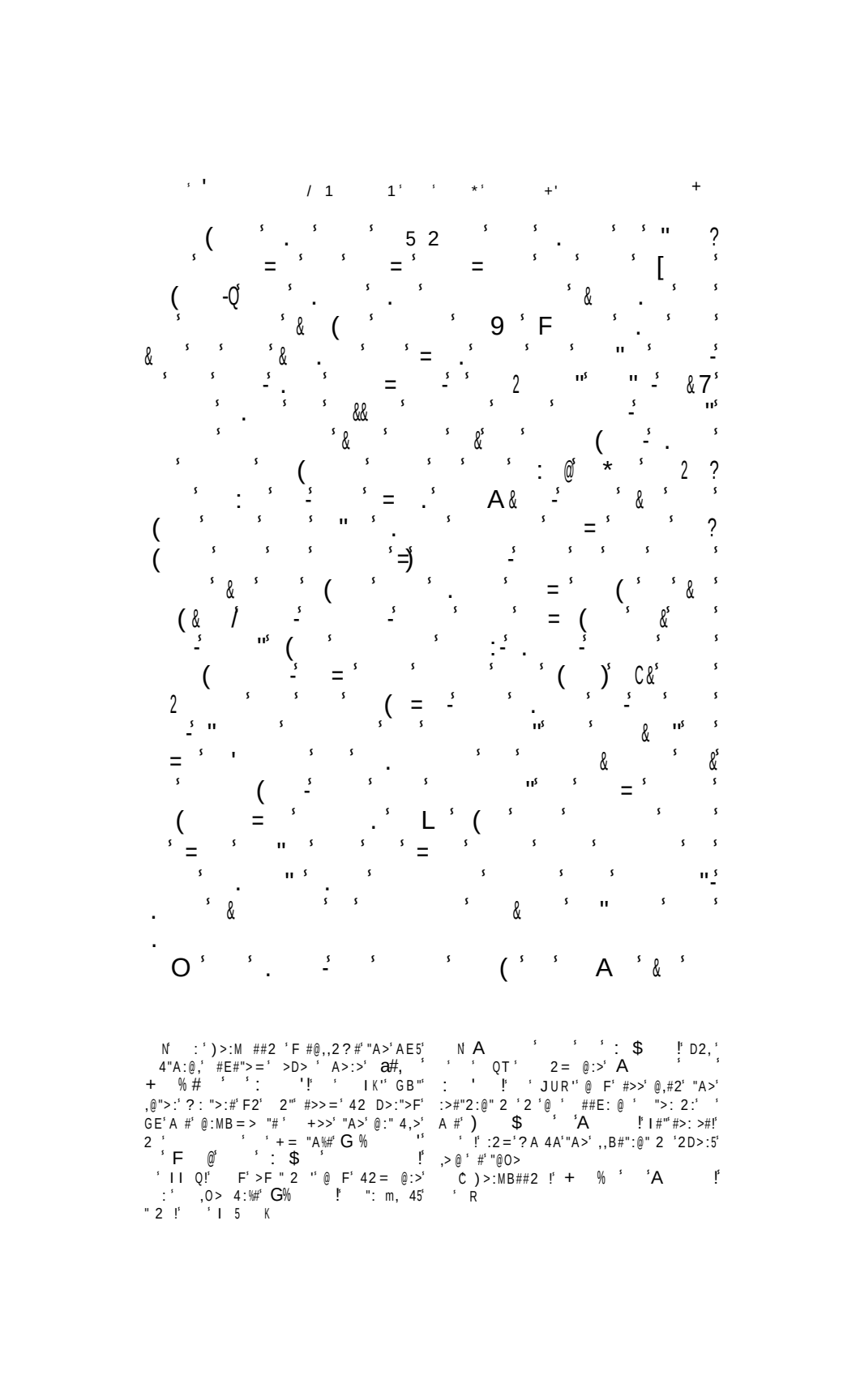
representation as above. Mr. Fergusson introduces light from the sides, by supposing that the roof did not rest directly on the walls, but on rows of wooden pillars placed along the edge of the walls both internally towards the apartments and externally towards the outer air. The only ground for this supposition, which is of a very startling character, seems to be the occurrence in a single bas-relief, representing a city in Armenia, of what is regarded as a similar arrangement. But it must be noted that the lower portion of the building, represented overleaf, bears no resemblance at all to the same part of an Assyrian palace, since in it perpendicular lines prevail, whereas, in the Assyrian palaces, the lower lines were almost wholly horizontal; and that it is not even certain that the upper portion, where the pillars occur, is an arrangement

for admitting light, since it may be merely an ornamentation.



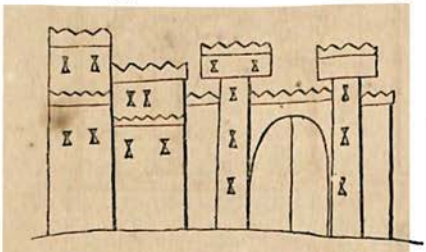
(Armenian buildings from Koyunjik).

The difficulties attaching to every theory of roofing and lighting which places the whole of an Assyrian palace under covert, has led some to suggest that the system actually adopted in the larger



Interior of an Assyrian Palace, restored (after Layard).

have necessitated this long discussion, would have received illustration, or even solution from the forms of buildings which occur so frequently on the bas-reliefs.

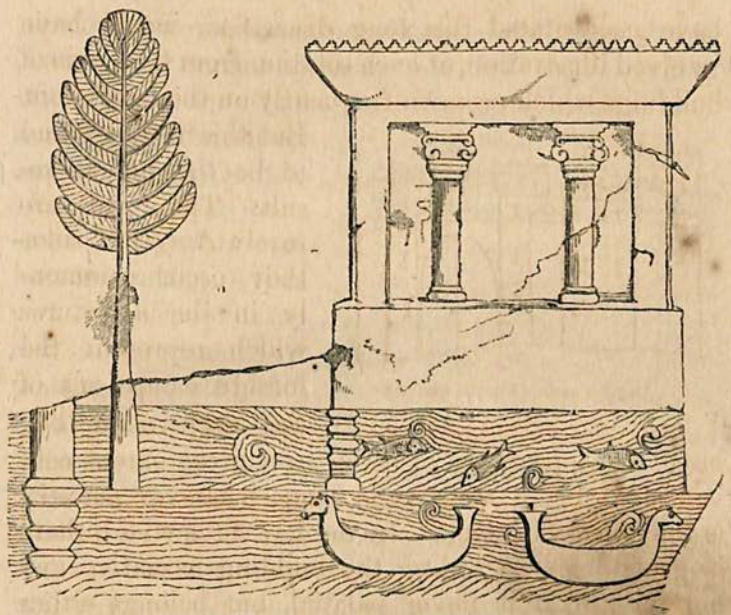


Assyrian castle (Nimrud obelisk).

But this is not found to be the actual result. The forms are rarely Assyrian, since they occur commonly in the sculptures which represent the foreign campaigns of the kings; and they have the appearance of being to a great extent conventional, being nearly the same, whatever country is the object of attack. In the few cases where there is ground for regarding the building as native and not foreign, it is never palatial, but belongs either to sacred or to domestic architecture. Thus the monumental representations of Assyrian buildings which have come down to us, throw little or no light on the construction of their palaces. As, however, they have an interest of their own, and will serve to illustrate in some degree the domestic and sacred architecture of the people, some of the most remarkable of them will be here introduced.

No. I.
Assyrian altar (?), from a bas-relief, Khorsabad.

The representation (No. I.) is from a slab at Khorsabad. It is placed on the summit of a hill, and is regarded by M. Botta as an altar. No. II. is from the same slab. It stands at the foot of the hill crowned



No. II. Assyrian temple (Khorsabad).

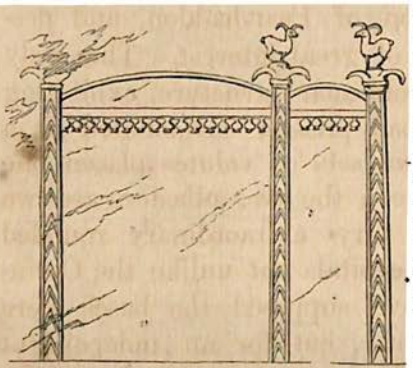
by No. I. It has been called a "fishing pavilion;"[4] but it is most probably a small temple, since it bears a good deal of resemblance to other representations which are undoubted temples, as (particularly) to No. III., which is from Lord Aberdeen's black stone, and is there accompanied by a priest, a sacred tree, and an ox for sacrifice.[5] The representation (No. IV.) is also thought to be a temple. It is of earlier date than any of the others, being taken from a slab belonging to the

No. III. Assyrian temple, from Lord Aberdeen's black stone.

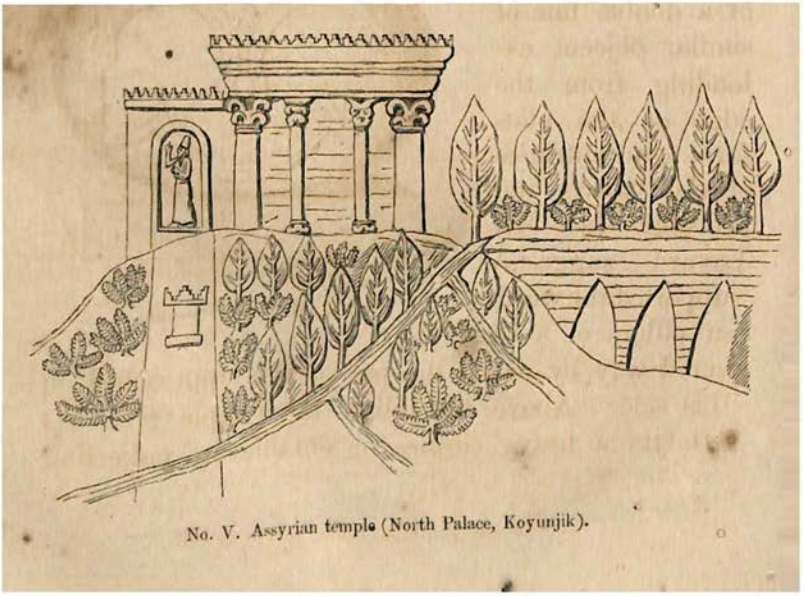
[4] Fergusson, *Handbook of Architecture*, p. 179.

[5] See the representation in Mr. Fergusson's *Palaces of Nineveh Restored*, p. 298. This black stone is of the time of Esar-haddon.

North-west Palace at Nimrud, and is remarkable in many ways. First, the want of symmetry is curious, and unusual. Irregular as are the palaces of the Assyrian kings, there is for the most part no want of regularity in their sacred buildings. The two specimens above adduced are proof of this; and such remains of actual temples as exist are in accordance with the sculptures in this particular. The right-hand aisle No. IV., having nothing correspondent to it on the other side, is thus an anomaly in Assyrian architecture. The patterning of the pillars with chevrons is also remarkable; and their capitals

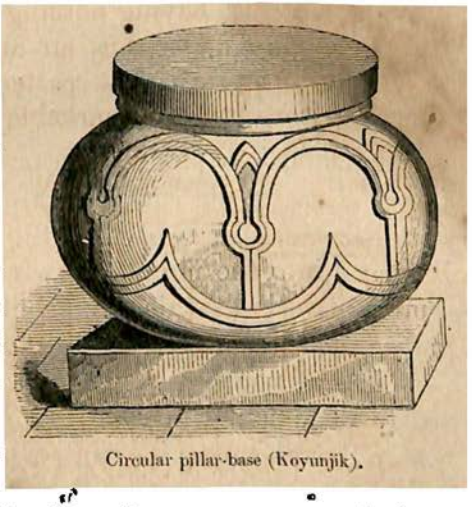


No. IV. Assyrian temple (Nimrud).



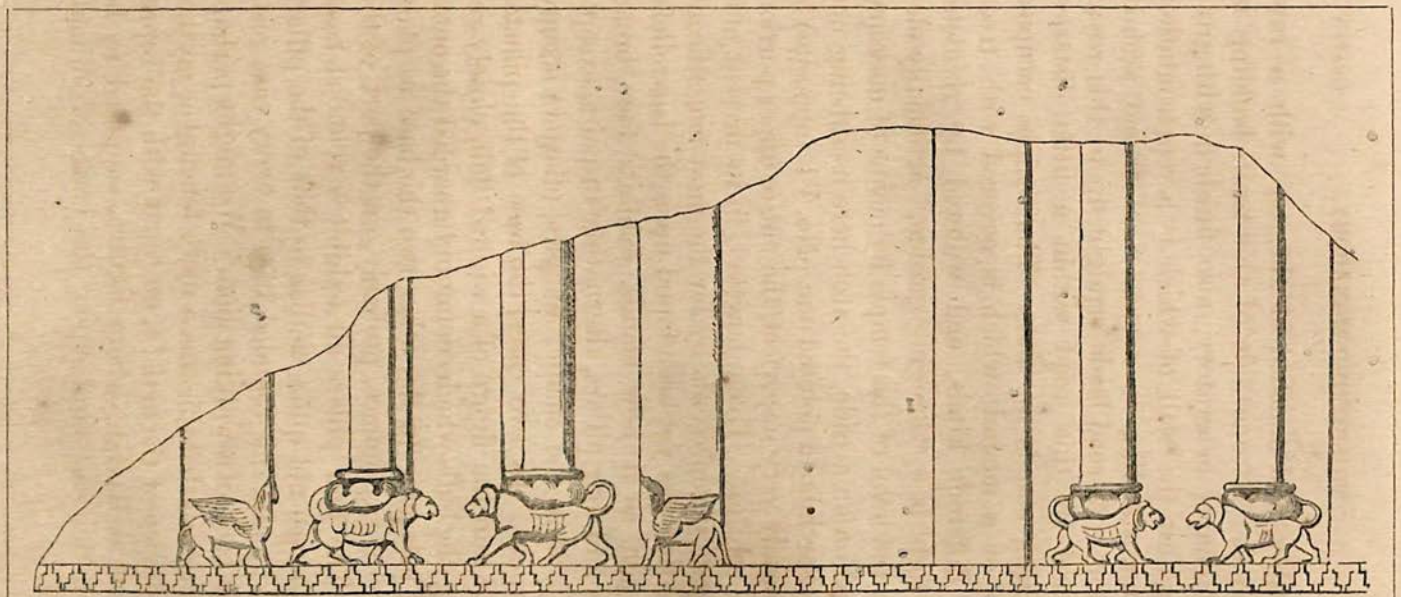
No. V. Assyrian temple (North Palace, Koyunjik).

are altogether unique.[6] No. V. is a temple of a more elaborate character. It is from the sculptures of *Asshur-baṇi-pal*, the son of Esar-haddon, and possesses several features of great interest. The body of the temple is a columnar structure, exhibiting at either corner a broad pilaster surmounted by a capital composed of two sets of volutes placed one over the other. Between the two pilasters are two pillars resting upon very extraordinary rounded bases, and crowned by capitals not unlike the Corinthian. We might have supposed the bases mere figments of the sculptor, but for an independent evidence of the actual employment by the Assyrians of rounded pillar-bases. Mr. Layard discovered at Koyunjik a set of "circular pedestals," whereof he gives the subjoined representation. They appeared to form part of a double line of similar objects, extending from the edge of the platform to an entrance of the palace, and probably (as Mr. Layard suggests) supported the wooden pillars of a covered way by which the palace was approached on this side. Above the pillars the temple (No. V.) exhibits a heavy cornice or entablature projecting



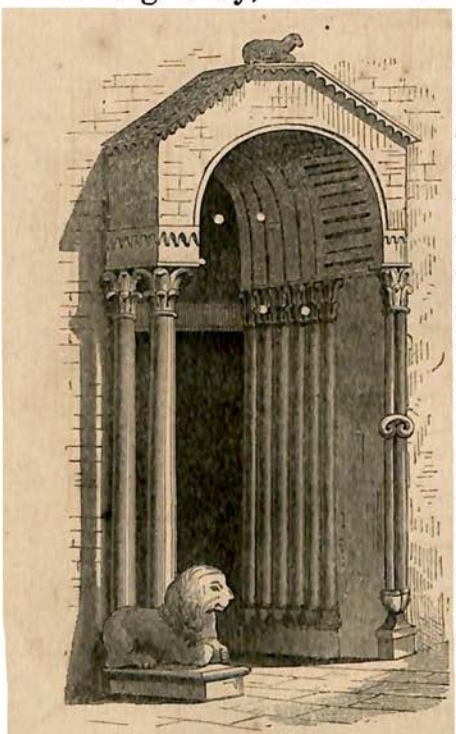
Circular pillar-base (Koyunjik).

[6] On this point, see below, p. 416.



No. VI. Basement portion of an Assyrian temple (North Palace, Koyunjik).

resembling dogs.[7] But one of M. Place's architectural discoveries seems to make it possible, or even probable, that a real feature in Assyrian building is here represented. M. Place found the arch of the town gateway, which he exhumed at Khorsabad, to spring from the backs of the two bulls which guarded it on either side.[8] Thus the lions at the base of the pillars may be real architectural forms as well as the winged bulls which support the pilasters. The lion was undoubtedly a sacred animal, emblematic of divine power, and specially assigned to Nergal, the Assyrian Mars, the god at once of war and of hunting. His introduction on the exteriors of buildings was common in Asia Minor; but no other example occurs of his being made to support a pillar, excepting in the so-called Byzantine architecture of Northern Italy.



Porch of the Cathedral, Trent.

No. VII*a* (opposite) introduces us to another kind

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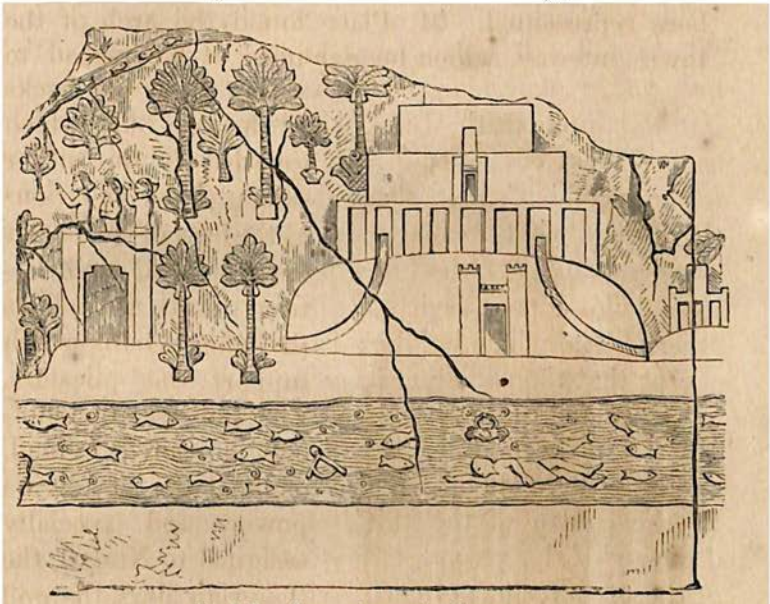
[7] See Layard's *Monuments of Nineveh*, 2nd series, Pl. 51; and compare *Nineveh and Babylon*, p. 208. A similar treatment of divine figures is common upon the Cylinders. (See Cullimore's *Cylinders*, Nos. 19, 20, 30, 55, 96, &c.)

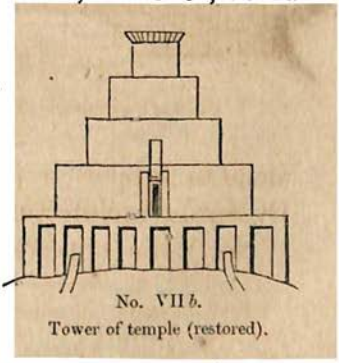
[8] *Journal Asiatique*, Août, 1853, p. 150; Fergusson, *Handbook of Architecture*, vol. i. p. 173.

of Assyrian temple, or perhaps it should rather be said to another feature of Assyrian temples—common to them with Babylonian—the tower or *ziggurat*. This



No. VII *a*. Tower of a temple (Koyunjik).

appears to have been always built in stages, which probably varied in number—never, however, so far as appears, exceeding seven. The sculptured example before us, which is from a bas-relief found at Koyunjik, distinctly exhibits four stages, of which the topmost, owing to the destruction of the upper portion of the tablet, is imperfect. It is not unlikely that in this instance there was above the fourth a fifth stage, consisting of a shrine like that



No. VII *b*.
Tower of temple (restored).

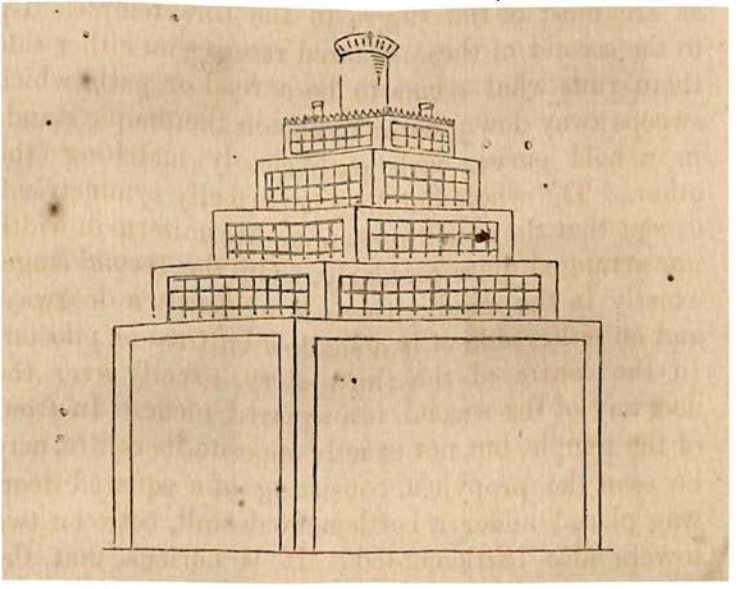
FG CG' $>@9 6'C F6:;' G:' :>' :?H:' '$:8B ^' G:'C ?H: :': :A> 6'F 8;' G:6'G>A:'@::6'6:> 9' >B' 6' ' 1 '

G:' F 6 ' :>8 :B' > :' F G9' ' :?> ' 6' G B' :?H:' G:' @>B:?:6 ' B 9' B' H>6: :;' F G' 6;:6:;' :C >6 8 > ' :C:BB:B' >B' F>B' G:' C>B:' > ' ? 8;-' >6;' > ' G:'$ B'4^ G:' :?> 6;: '> :' H > 6 ' >B' > :' ? B ' ' G:' B > :B' 6' G:'$ B' :?H:' H' ' G:'B:C 6;' ' G:B:' B78> :;' :C:BB:B' 6':' G: 'B ;:' G: :' 86B' FG>' B::?B' ' @:' >' >;' ' H> G4' FG CG' BF::HB'>F>9';F6' G:'G 'FG: : 6' G:' :?H:'B >6;B' 6' >' G ;' C8 A:' :>CG' H> G' C B: 9' ?> CG 6 ' G:' G: ' G:'FG :'@8 ; 6 ' B'H: :C 9'B9??: C> ' :DC:H' G>' G:'H>6B 6 ' B'6 '78 :'86 ?' 6'F ; G' 6 '> >6 :;'78 :' : 8 > 9' 6' G:' B:C 6;'B > :' :D>C 9' 6' G:' ? ;;:' G: :' B' :A ;:6 9'>'; F>9' >6;' 6': G: 'B ;:' ' '>'BG> F'@8 :BB' 'H >B : ' 6' G:' C:6 :' ' G:' G ;' B 9' :D>C 9' A: ' G:' ; F>9' ' G:' B:C 6;' B' 'B78> :;'6 CG:' 6'O 6' ' G:' :?H:'G8'6 ':D>C 9' HH B :' B'C:6 :'?>9' @:' B::6' G:' H H9 B:>'C 6B B 6 'I '>'B78> :;' ; P F>9'H >C:;' 86;:' '>'@> :?:6 :;' F> '@: F::6' F ' F: B' >B ' @> :?:6 :;' ' B' C8 8B' G>' G:' H> GB' ;'6 ' :>;' ' G:'H H9 B:>'@8'B::?' 'C8 A:' 86;' G:'G

:?> 6B' '> 8 'B ? >' ' G B' G>A:' B::6' ; BP C A: :;' >' 1G B>@>;' >' ? 8;' >6;' >' 1 :G' G: G>' G:' C 6 C>' ? 86;' >' 1G B>G>;' :DP H :;' @9'%' >C:'F>B' 86;*4' C 6 > 6'>' F:' 6' B:A:6'B > :B'4^ G>' ' ? 8;'FG CG' B' B' B 6

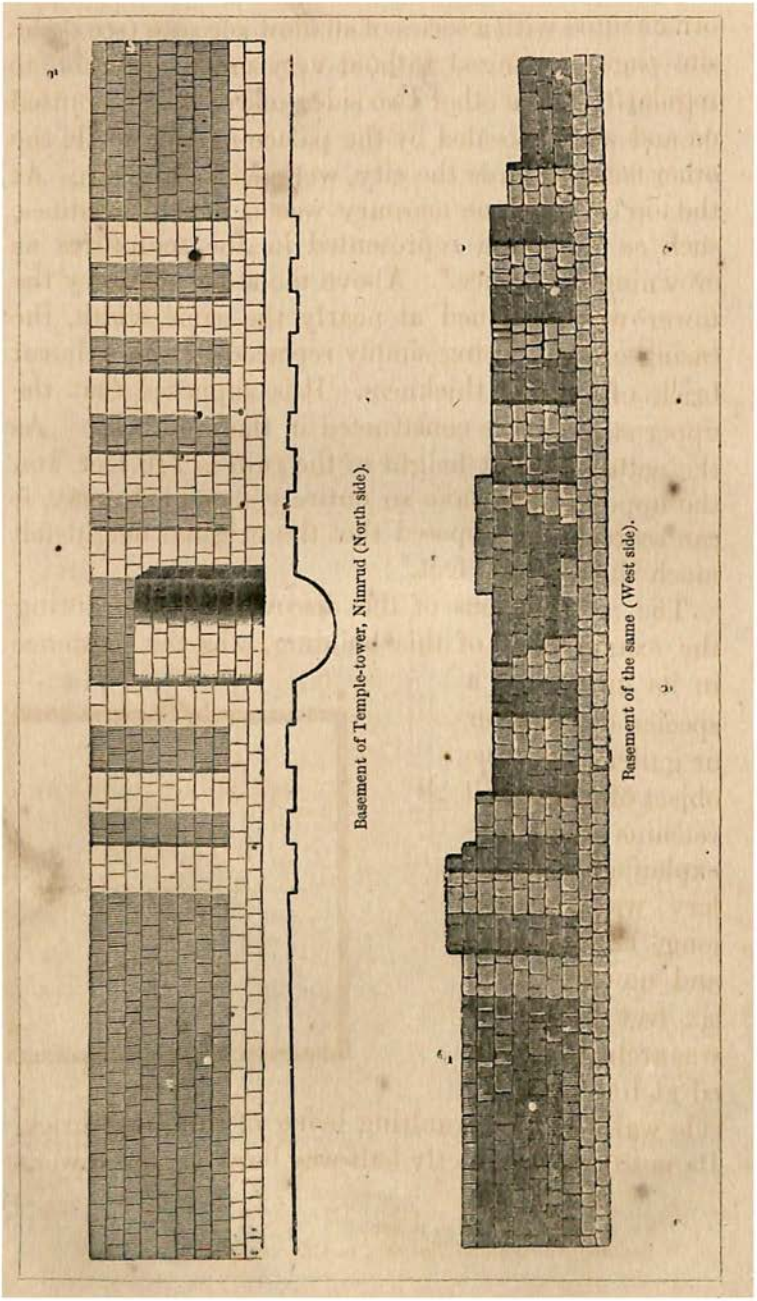
H' >:2F' ' I I H')>:MB##2 !' 9 %,7 % J
% +>>'"A>',,B#":@" 2 !' :@!' ' TJ' % !' 'IR ' 'A@D>' " 'B @G,>'
' C ' ' &' %' " % '!' "2'2G"@ ' @ E'F>"@ ,>F'@442B , !2 '"A #
D2,'aD ' ' I = ,F 7

an object from the plain,[4] and which was carefully examined by Mr. Layard, presented no positive proof of more than a single stage; but, from its conical shape, and from the general analogy of such towers, it is believed to have had several stages. Mr. Layard makes their number five, and crowns the fifth with a circular tower terminating in a heavy cornice;[5] but



for this last there is no authority at all, and the actual number of the stages is wholly uncertain. The base of this *ziggurat* was a square, 167 feet 6 inches each way, composed of a solid mass of sun-dried brick, faced at bottom to the height of twenty feet with a wall of hewn stones, more than eight feet and a half in thickness. The outer stones were bevelled at the edges, and on the two most conspicuous sides the wall was

[4] Supra, p. 253.
[5] *Nineveh and Babylon*, plan opp. p. 123; *Monuments of Nineveh*, 2nd series, frontispiece.



Basement of Temple-tower, Nimrud (North side).

Basement of the same (West side).

6>?:6 :;'F G'>'B: :B' 'BG> F' :C:BB:B'NB::' HH P
B :' H> :S' >6 :;'F G 8'A: 9' ?8CG' > :6 6' '
: 8 > 9' G:' G: ' F 'B ;:B' 6:' 'FG CG'>@8 :;'
6'>6;'F>B'C 6C:> :;'@9' G:'H> >C:' ? 86;'FG :' G:'
G: ' >C:;' F> ;B' G:'C 9'F: :'H: :C 9'H > 6' '
G:' H' ' G:'B 6:'?>B 6 9' F>B' >' F' ' >; 6:B'
B8CG' >B' > :' :6' :H :B:6 :;' 6' G:'OBC8 H 8 :B' >B'
C F6 6 ' >J :; : ^' @ A:' G:'B 6:' ?>B 6 9' G:'
F: # F>B'C 6 68:;' >'6:> 9' G:'B>?:'F ; G' G:'
C>B 6 ' 'B 6:'@: 6 'B ?H 9' :H >C:;'@9' 6:' '@8 6'
@ C ' ' 6 : ' G C 6:BB' ' B' B8HH B:;' G>' G:'
8HH:'B > :B'F: :'C 6B 8C :;' 6' G:'B>?:'F>9' B'
G:'>C 8>'H :B:6'G: G' ' G:' 8 6' B'"\,' :: '>6;'
G:'8HH:' B > :B'G>A:'B ' :6 : 9' ?6@:;' >F>9' '
C>6'BC> C: 9'@:'B8HH B:;' G>' G:' 6>'G: G' : '
?8CG'BG ' ' ' :: <

G:' ? B'C8 8B' ' G:' ; BC A: :B' ?>;:' ;8 6'
G:' :D>? 6> 6' ' G B' @8 ; 6 ' F>B' G:' :D B :6C:'
6' B' 6 : ' '>'
BH:C :B' 'CG>?@: '
' > : 9' G:' 8:'
@J:C' 'FG CG'B '
:?>6B'FG 9'86P
:DH > 6:;' G B' > P
: 9' F>B' ' ::'
6 ' ' ::'G G'
>6;#6 ' ? :' G>6'
B D' ::' @ >;' '
F>B'> CG:;' 'A>8 P
:;' >' H'@ G' G:
B ;:' F> B' >6;' G:'A>8 6'@:6 ' 'B86 ; :;'@ C '
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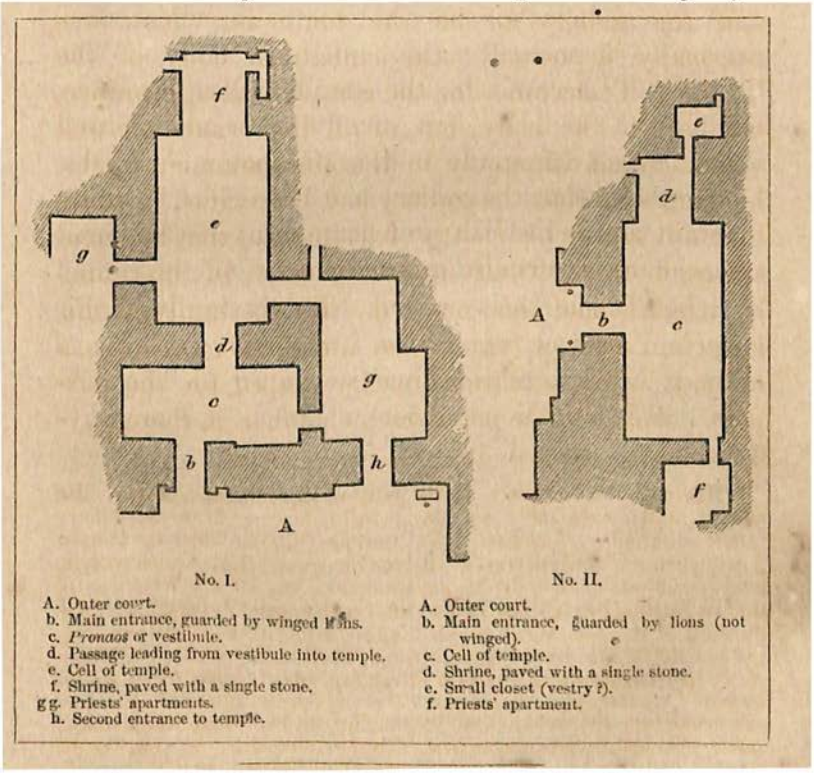
where of so enormous a length? Without pretending to say what the real object of the gallery was,[1] we may feel tolerably sure that it was not a tomb. The building which contained it was a temple-tower, and it is not likely that the religious feelings of the Assyrians would have allowed the application of a religious edifice to so utilitarian a purpose.

Besides the *ziggurat* or tower, which may commonly have been surmounted by a chapel or shrine, an Assyrian temple had always a number of basement chambers, in one of which was the principal shrine of the god. This was a square or slightly



[1] It may perhaps have had a religious bearing; and similar galleries may perhaps exist under all temple-towers.

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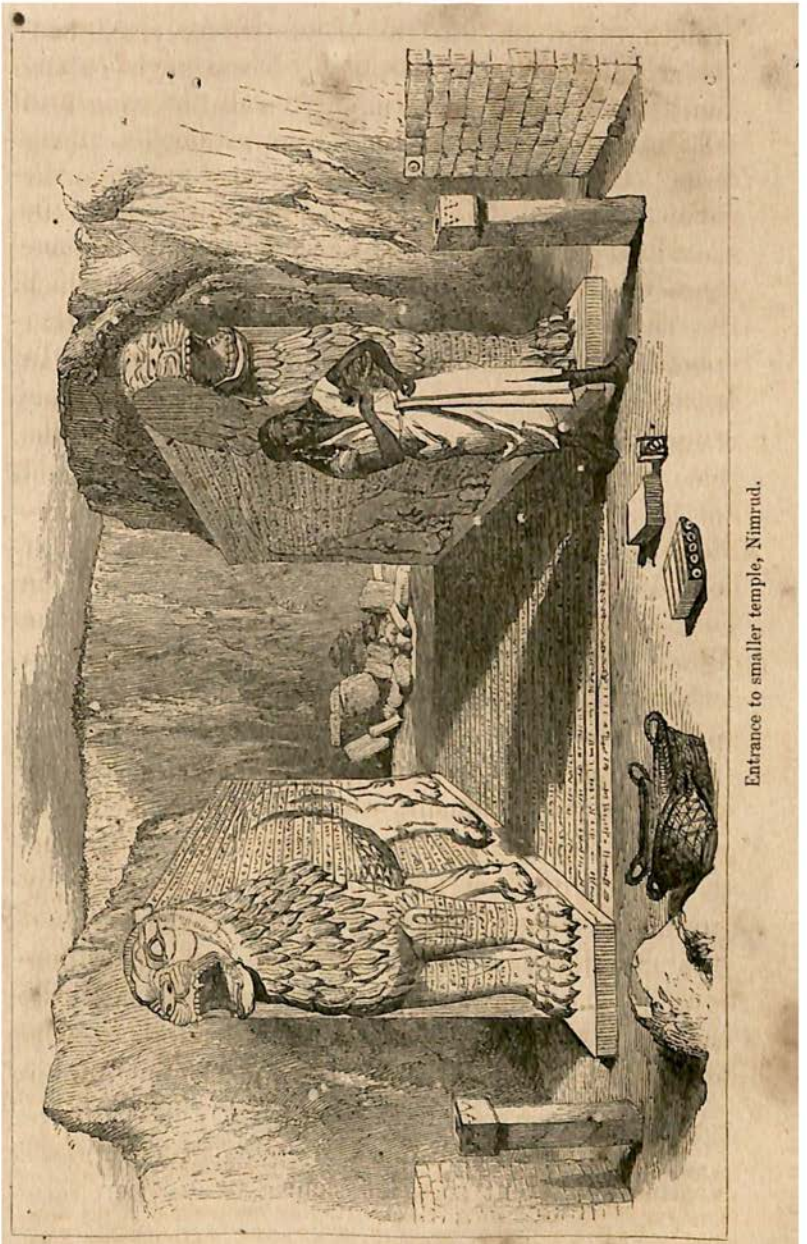
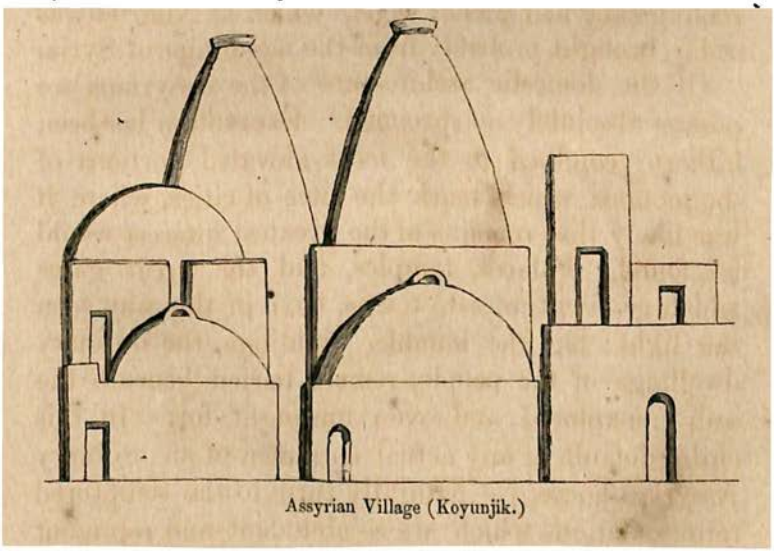


Entrance to smaller temple, Nimrud.

ever, we obtain but little light. The bulk of the slabs exhibit the wars of the kings in foreign countries, and thus place before us foreign rather than Assyrian architecture. The processional slabs, which are another large class, contain rarely any building at all, and, where they furnish one, exhibit to us a temple rather than a house. The hunting scenes, representing wilds far from the dwellings of man, afford us, as might be expected, no help. Assyrian buildings, other than temples, are thus most rarely placed before us. In one case indeed we have an Assyrian city, which a foreign enemy is passing; but the only edifices represented are the walls and towers of the exterior and the temple (No. VI. p. 391) whose columns rest upon lions. In one other we seem to have an unfortified Assyrian village;[9] and



Assyrian Village (Koyunjik.)

from this single specimen we are forced to form our ideas of the ordinary character of Assyrian houses.

[9] Layard, *Monuments of Nineveh*, Pl. 17.

It is observable here, in the first place, that the houses have no windows, and are, therefore, probably lighted from the roof; next, that the roofs are very curious, since, although flat in some instances, they consist more often either of hemispherical domes, such as are still so common in the East, or of steep and high cones, such as are but seldom seen anywhere. Mr. Layard finds a parallel for these last in certain villages of Northern Syria, where all the houses have conical roofs, built of mud, which present a very singular appearance.[1] Both

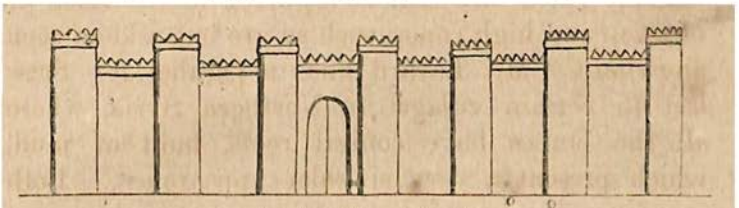
Village near Aleppo.

the domes and the cones of the Assyrian example have evidently an opening at the top, which may have admitted as much light into the houses as was thought necessary. The doors are of two kinds, square at the top, and arched; they are placed commonly towards the sides of the houses. The houses themselves seem to stand separate though in close juxtaposition.

The only other buildings of the Assyrians which appear to require some notice are the fortified enceintes of their towns. The simplest of these consisted of a single battlemented wall, carried in lines nearly

[1] Layard, *Nineveh and Babylon*, p. 112. The representation is of a village in the neighbourhood of Aleppo.

or quite straight along the four sides of the place, pierced with gates and guarded at the angles, at the gates, and at intervals along the curtain, with projecting towers, raised not very much higher than the walls, and (apparently) square in shape. In the



Assyrian battlemented wall.

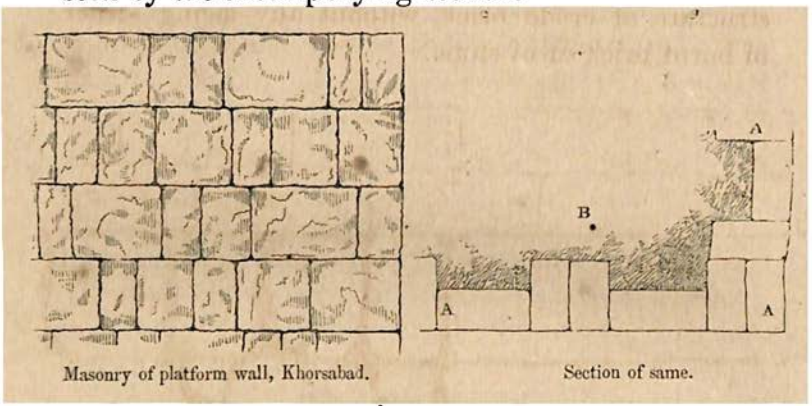
sculptures we sometimes find the battlemented wall repeated twice or thrice in lines placed one above the other, the intention being to represent the defence of a city by two or three walls, such as we have seen existed on one side of Nineveh.[2]

The walls were often, if not always, guarded by moats. Internally they were, in every case, constructed of crude brick; while externally it was common to face them with hewn stone, either from top to bottom, or at any rate to a certain height. At Khorsabad the stone revêtement of one portion at least of the wall was complete; at Nimrud (Calah) and at Nineveh itself it was partial, being carried at the former of those places only to the height of twenty feet.[3] The masonry at Khorsabad was of three kinds. That of the palace mound, which formed a portion of the outer defence, was composed entirely of blocks of stone, square-hewn and of great size, the length of the blocks varying from two to three yards, while the width was one yard and the height from five to six feet. The masonry was laid somewhat curiously.

[2] Supra, pp. 324, 325.

[3] Supra, p. 322, note [1].

The blocks (A A) were placed alternately long-wise and end-wise against the crude brick (B), so as not merely to lie against it, but to penetrate it with their ends in many places.[4] Care was also taken to make the angles especially strong, as will be seen by the accompanying section.

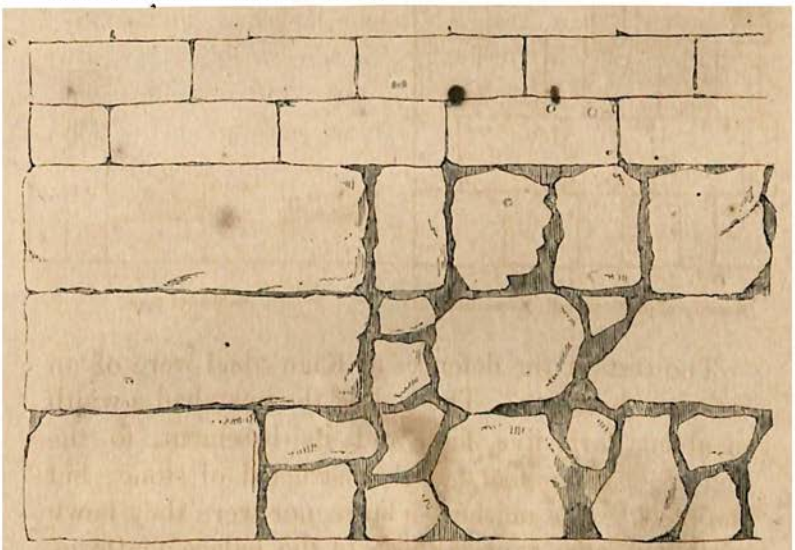


Masonry of platform wall, Khorsabad. Section of same.

The rest of the defences at Khorsabad were of an inferior character. The wall of the town had a width of about forty-five feet, and its basement, to the height of three feet, was constructed of stone; but the blocks were neither so large, nor were they hewn with the same care as those of the palace platform. The angles, indeed, were of squared stone; but even there the blocks measured no more than three feet

[4] M. Botta says: "Cette muraille était construite en blocs de pierre calcaire très-dure, venant des montagnes voisines: ces blocs ont la forme de parallélipipèdes rectangles d'une coupe régulière, et sont disposés par assises, de manière à présenter alternativement au dehors leur face la plus large et une de leurs extrémités; c'est-à-dire que tous étant posés de champ, l'un tapisse le massif, puis un et quelquefois deux autres continuent l'assise par leurs extrémités; la même alternative se répétant dans toute la longueur de celle-ci. Il en résulte qu'étant tous de même longueur, ceux qui présentent une extrémité au dehors dépassent à l'intérieur la ligne des autres, et s'encastrent dans le massif de briques. Cette disposition avait pour but de lier solidement l'amas terreux intérieur au revêtement extérieur." (*Monument de Ninive*, vol. v. p. 31.)

in length and a foot in height: the rest of the masonry consisted of small polygonal stones, merely smoothed on their outer face, and roughly fitting together in a manner recalling the Cyclopian walls of Greece and Italy.[5] They were not united by any cement. Above the stone basement was a massive structure of crude brick, without any facing either of burnt brick or of stone.

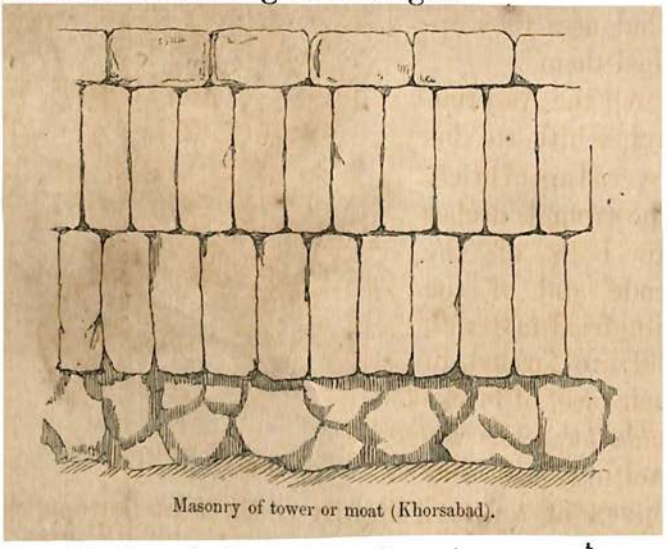


Masonry of town-wall (Khorsabad).

The third kind of masonry at Khorsabad was found outside the main wall, and may have formed either part of the lining of the moat or a portion of a tower, which may have projected in advance of the wall at this point. It was entirely of stone.

[5] M. Botta makes this comparison (*Monument de Ninive*, l. s. c.). His representation, however, differs in two main points from the ordinary Cyclopian style: 1. the horizontal course seems to be maintained throughout; and 2. the stones do not fit into each other at all closely or with any exactness.

The lowest course was formed of small and very irregular polygonal blocks roughly fitted together; above this came two courses of carefully squared stones more than a foot long, but less than six inches in width, which were placed end-wise, one over the other, care being taken that the joints of the upper tier should never coincide exactly with those of the lower. Above these was a third course of hewn stones, somewhat smaller than the others, which were laid in the ordinary manner. Here the construction, as discovered, terminated; but it was evident, from the *débris* of hewn stones at the foot of the wall, that originally the courses had been continued to a much greater height.[6]



Masonry of tower or moat (Khorsabad).

In this description of the buildings raised by the Assyrians it has been noticed more than once that they were not ignorant of the use of the arch.[7] The old notion that the round arch was a discovery of

[6] Botta, *Monument de Ninive*, vol. v. p. 31. [7] Supra, pp. 378, 390, &c.

the Roman, and the pointed of the Gothic architects, has gradually faded away with our ever-increasing knowledge of the actual state of the ancient world;[8] and antiquarians were not, perhaps, very much surprised to learn, by the discoveries of Mr. Layard, that the Assyrians knew and used both kinds of arch in their constructions. Some interest, however, will probably be felt to attach to the two questions, how they formed their arches, and to what uses they applied them.

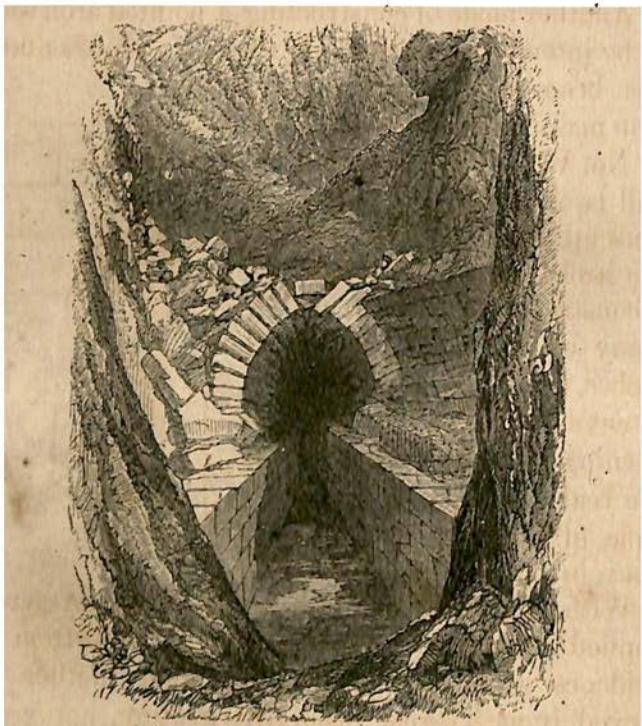
Arched drain (North-West Palace, Nimrud).

All the Assyrian arches hitherto discovered are of brick. The round arches are both of the crude and of the kiln-dried material, and are formed, in each case, of bricks made expressly for vaulting, slightly convex at top and slightly concave at bottom, with one broader and one narrower end. The arches are

[8] The earliest arches seem to be those of Egypt, which mount at least to the 15th century before our era. (Wilkinson, *Ancient Egyptians*, 1st series, iii. p. 317; Falkener, *Dædalus*, App. p. 288.) The Babylonian arches mentioned above (p. 104) cannot be much later than B.C. 1300. The earliest known Assyrian arches would belong to about the 9th century B.C.

of the simplest kind, being exactly semicircular, and rising from plain perpendicular jambs. The greatest width which any such arch has been hitherto found to span is about fifteen feet.[9]

The only pointed arch actually discovered is of burnt brick. The bricks are of the ordinary shape,



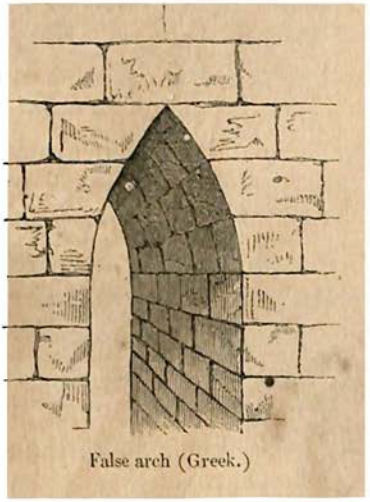
Arched drain (South-East Palace, Nimrud).

and not intended for vaulting. They are laid side by side up to a certain point, being bent into a slight arch by the interposition between them of thin wedges of mortar. The two sides of the arch having been in this way carried up to a point where

[9] Fergusson, *Handbook of Architecture*, vol. i. p. 173.

the lower extremities of the two innermost bricks nearly touched, while a considerable space remained between their upper extremities, instead of a key-stone or key-brick fitting the aperture, ordinary bricks were placed in it longitudinally, and so the space was filled in.[1]

Another mode of constructing a pointed arch seems to be intended in a bas-relief, whereof a representation has been already given.[2] The masonry of the arcade in No. V. (p. 388) runs (it will be seen) in horizontal lines up to the very edge of the arch, thus suggesting a construction common in many of the early Greek arches, where the stones are so cut away that an arched opening is formed, though the real constructive principle of the arch has no place in such specimens.[3]



False arch (Greek.)

With regard to the uses whereto the Assyrians applied the arch, it would certainly seem, from the evidence which we possess, that they neither employed it as a great decorative feature, nor yet as a main principle of construction. So far as appears, their chief use of it was for doorways and gateways. Not only are the town gates of Khorsabad found to have been arched over, but in the repre-

[1] Layard, *Nineveh and Babylon*, p. 163.

[2] Supra, p. 388.

[3] See Smith's *Dictionary of Greek and Roman Antiquities*, p. 125, 2nd edition; and Mr. Falkener's *Dædalus*, App. p. 288.

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' G>B' @::6' B8 :B :;' G> ' G:' BB9 >6B' >HH :;'
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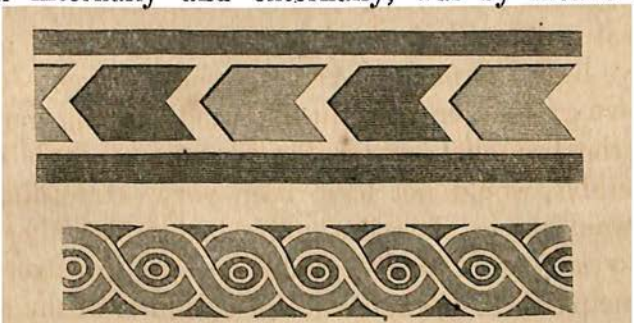
it has been necessary occasionally to refer to their ornamentation; but the subject is far from exhausted, and will now claim, for a short space, our special attention. Beyond a doubt the chief adornment, both of palaces and temples, consisted of the colossal bulls and lions guarding the great gateways, together with the sculptured slabs wherewith the walls, both internal and external, were ordinarily covered to the height of twelve or sometimes even of fifteen feet. These slabs and carved figures will necessarily be considered in connexion with Assyrian sculpture, of which they form the most important part. It will, therefore, only be noted at present that the extent of wall covered with the slabs was, in the Khorsabad palace, at least 4000 feet,[8] or nearly four-fifths of a mile, while in each of the Koyunjik palaces the sculptures extended to considerably more than that distance.

The ornamentation of the walls above the slabs, both internally and externally, was by means of

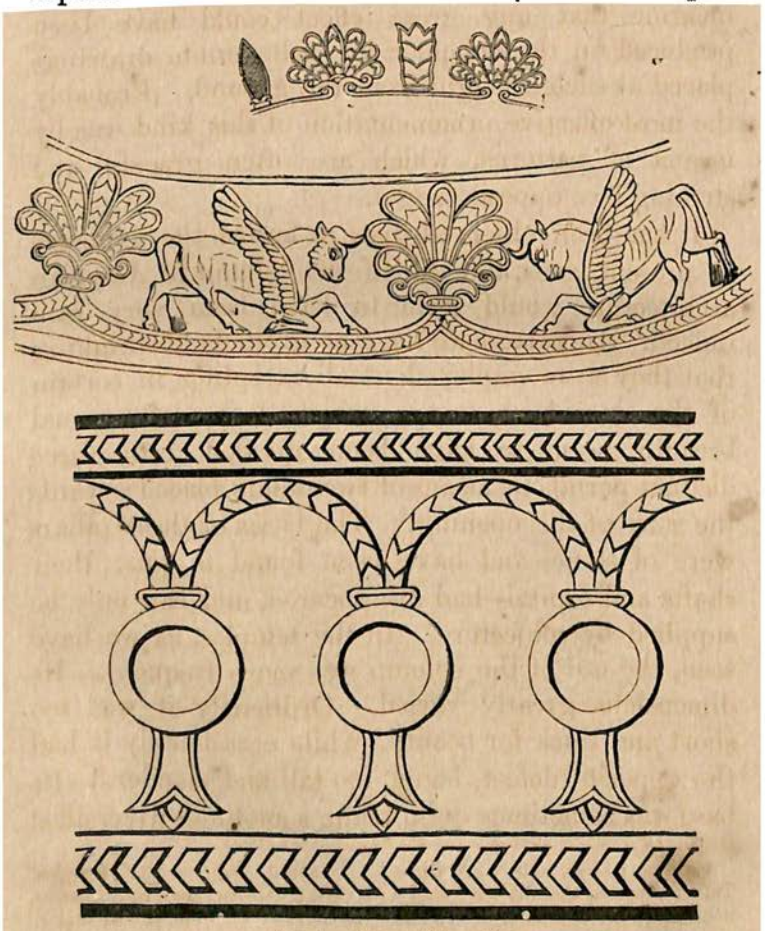


Assyrian patterns (Nimrud).

bricks painted on the exposed side and covered with an enamel. The colours are for the most part somewhat pale, but occasionally they possess

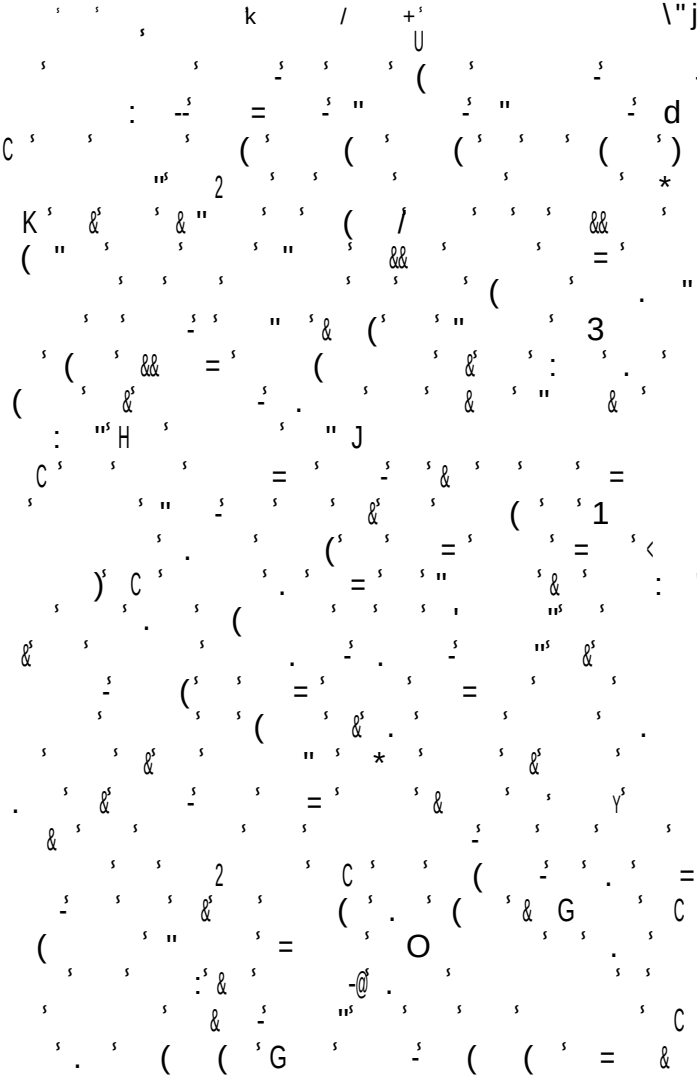
[8] Fergusson, *Palaces of Nineveh*, p. 265.

some brilliancy. Predominant among the tints are a pale blue, an olive green, and a dull yellow. White is also largely used; brown and black are not infrequent; red is comparatively rare.[9] The subjects represented are either such scenes as occur upon



Assyrian Patterns (Nimrud).

[9] See Botta's *Monument de Ninive*, vol. ii. Plates 155 and 156; Layard's *Monuments of Nineveh*, 1st series, Plates 84, 86, and 87; 2nd series, Plates 53, 54, and 55.



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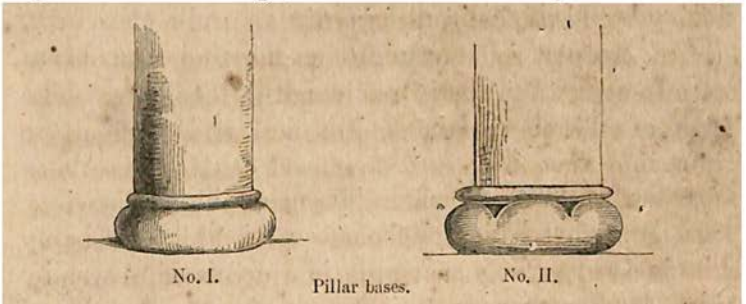
by a few mouldings, sometimes curiously and rather



No. I. Pillar bases. No. II.

clumsily rounded (as in No. II. above). The shaft was occasionally patterned.[5] The capital, in one

No. I. No. II. No. III.
Assyrian capitals.

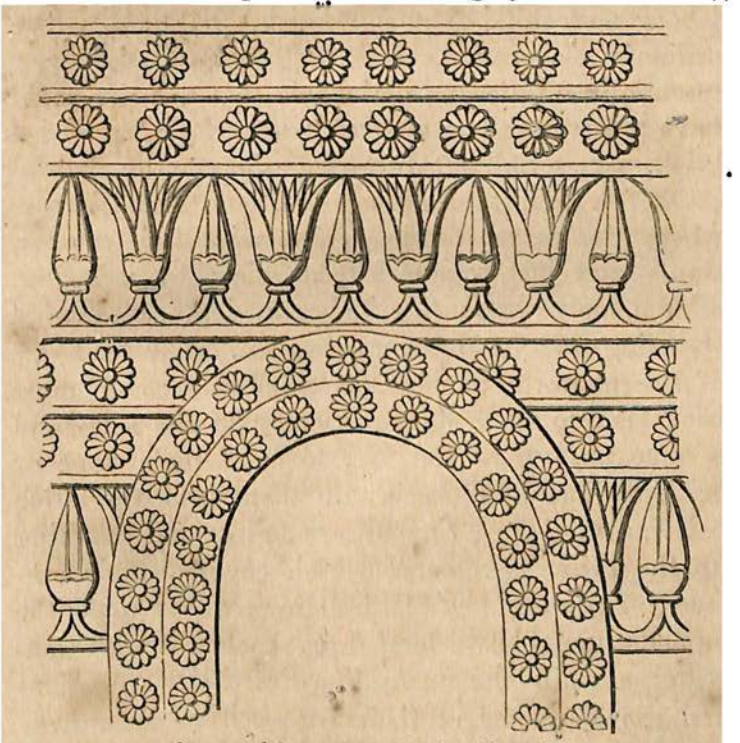
No. IV.
Ibex capital.

instance (No. I.), approaches to the Corinthian; in another (No. II.) it reminds us of the Ionic; but the volutes are double, and the upper ones are surmounted by an awkward-looking abacus. A third (No. III.) is very peculiar, and to some extent explains the origin of the second. It consists of two pairs of ibex horns, placed one over the other. With this may be compared another (No. IV.), the most remarkable of all, where we have first a single pair of ibex horns,

[5] See above, p. 388, No. IV.

and then, at the summit, a complete figure of an ibex, very graphically portrayed.

The beauty of Assyrian patterning has been already noticed. Patterned work is found not only on the enamelled bricks, but on stone pavement slabs, and around arched doorways leading from one chamber to another, where the patterns are carved with great care and delicacy upon the alabaster. The accompanying specimen of a doorway, which is taken from an unpublished drawing by Mr. Boutcher,



Ornamental doorway (North Palace, Koyunjik).

is very rich and elegant, though it exhibits none but the very commonest of the Assyrian patterns. A carving of a more elaborate type, and one pre-

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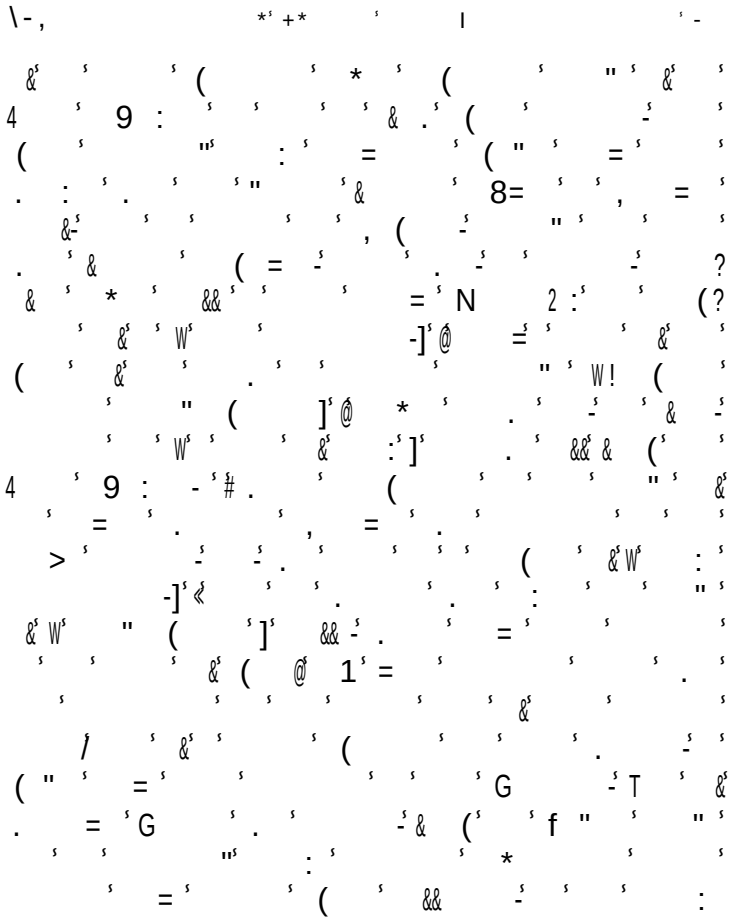
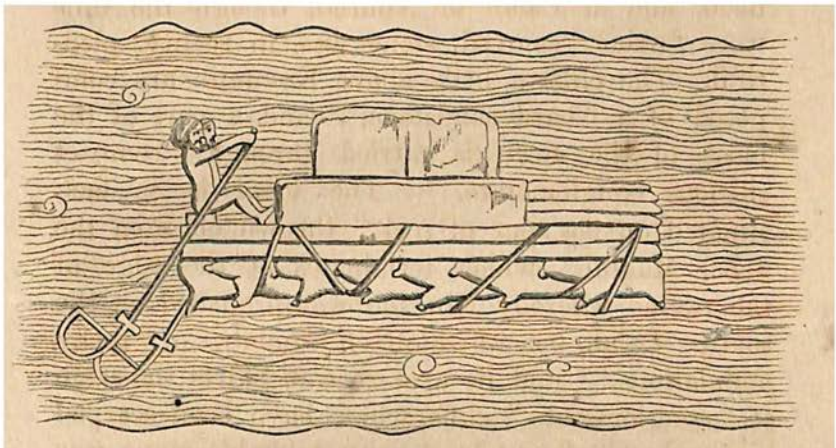


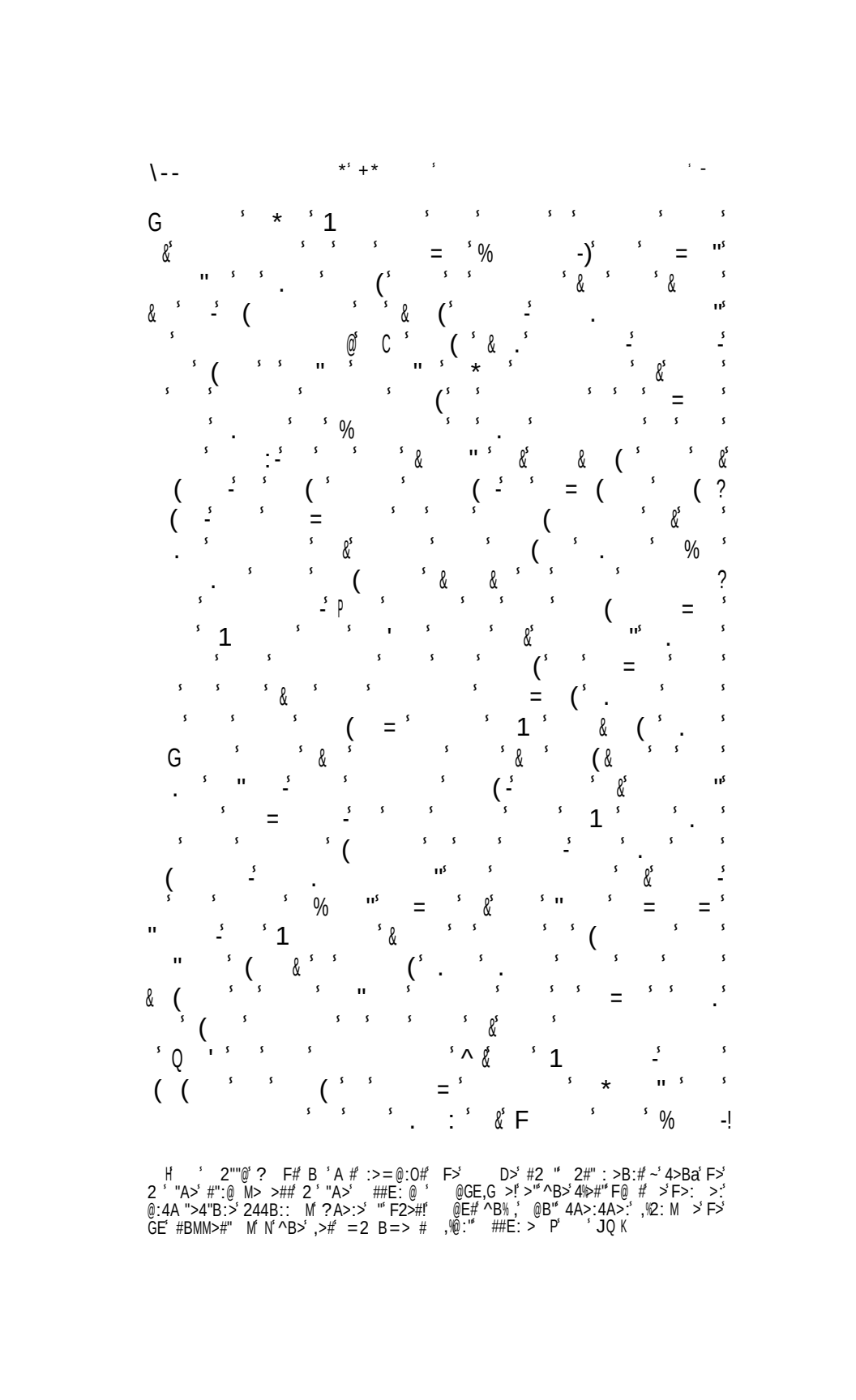
might have been brought from the quarries where they were hewn to the sites selected for the cities by water-carriage,—a mode of transport well known to the Assyrians, as is made evident to us by the bas-reliefs.



Water-transport of stone for building (Koyunjik).

If the best possible building material was thus plentiful in Assyria, and its conveyance thus easy to manage, to what are we to ascribe the decided preference shown for so inferior a substance as brick? No considerable difficulty can have been experienced in quarrying the stone of the country, which is seldom very hard, and which was, in fact, cut by the Assyrians, whenever they had any sufficient motive for removing or making use of it.[4] One answer only can be reasonably given to the

[4] At Nimrud the western cliff is "artificially scarped" to make it a secure defence. (*Journal of As. Soc.* vol. xv. p. 346.) At Negoub the rock is tunnelled for some distance, and for a longer space "chiselled through a hard sandstone and surface-conglomerate to a depth perhaps of forty feet." (Ibid. p. 311.) At Nineveh the moat is carried "for upwards of two miles, with a breadth of 200 feet, through a peculiarly hard and compact silicious conglomerate." (Ibid. p. 320.) A very hard basalt was used in the palace temple at Khorsabad. (Supra, p. 371.)



combined with the presence of so many specimens in the great National Museums of London and Paris, have produced a general familiarity with the subject, still, as a connected view of it in its several stages and branches is up to the present time a desideratum in our literature,[1] it may not be superfluous here to attempt a brief account of the different classes into which their productions in this kind of art fall, and the different eras and styles under which they naturally range themselves.

Assyrian mimetic art consists of statues, bas-reliefs, metal-castings, carvings in ivory, statuettes in clay, enamellings on brick, and intaglios on stones and gems.

Assyrian statues are comparatively rare, and, when they occur, are among the least satisfactory of this people's productions. They are coarse, clumsy, purely formal in their design, and generally characterised by an undue flatness, or want of breadth in the side view, as if they were only intended to be seen directly in front. Sometimes, however, this defect is not apparent. A sitting statue in black basalt, of the size of life, representing an early king, which Mr. Layard discovered at Kileh-

Assyrian statue (Kileh-Sherghat).

[1] Mr. Fergusson, who has treated of the architecture of the Assyrians with so much knowledge and ingenuity, says but little on the subject of their sculpture. Mr. Layard's review of the subject in his first work (Book II. ch. ii.) is the best, which at present exists; but it is of necessity incomplete, owing to the early period in the history of Assyrian discovery at which it was composed. Its views are also occasionally open to dispute.

Sherghat,[2] and which is now in the British Museum, may be instanced as quite free from this disproportion. It is very observable, however, in another of the royal statues recently recovered,[3] as it is also in the monolith bulls and lions universally. Otherwise, the proportions of the figures are commonly correct. They bear a resemblance to the archaic Greek, especially to that form of it which we find in the sculptures from Branchidæ. They have just the same rudeness, heaviness, and stiff formality. It is difficult to judge of their execution, as they have mostly suffered great injury from the hand of man, or from the weather; but the royal statue here represented, which is in better preservation than any other Assyrian work "in the round" that has come down to us, exhibits a rather high finish. It is smaller than life, being about three and a half feet high: the features are majestic, and well marked; the hair and beard are elaborately curled; the arms and hands are well shaped, and finished with care. The dress is fringed elaborately, and descends to the ground, concealing all the lower

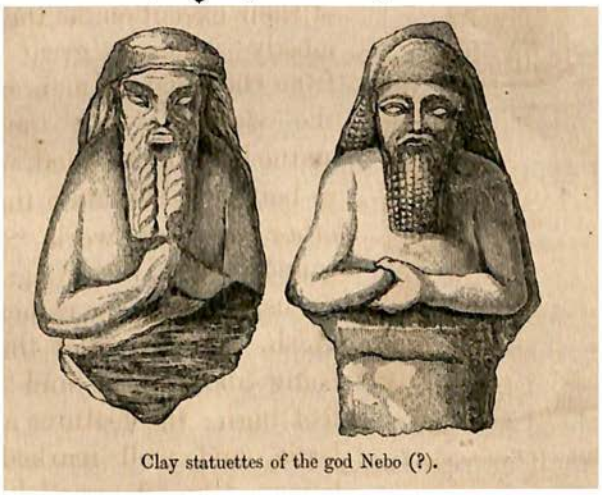
Statue of Sardanapalus I. (from Nimrud).

[2] See Layard, *Nineveh and its Remains*, vol. ii. pp. 51, 52.

[3] Layard, *Nineveh and Babylon*, p. 361. This statue is also in the British Museum.

part of the figure. The only statues recovered besides these are two of the god Nebo, brought from Nimrud,[4] a mutilated one of Ishtar, or Astarte, found at Koyunjik, and a tolerably perfect one of Sargon, which was discovered at Idalium, in the island of Cyprus.[5]

The clay statuettes of the Assyrians possess even less artistic merit than their statues. They are chiefly images of gods or genii, and have most commonly something grotesque in their appearance. Among the most usual are figures which represent either Mylitta (Beltis), or Ishtar.[6] They are made in a fine terra cotta, which has turned of a pale red in baking, and are coloured with a cretaceous coating, so as greatly to resemble Greek pottery.[7] Another type is that of an old man, bearded, and with hands



Clay statuettes of the god Nebo (?).

clasped, which we may perhaps identify with Nebo, the Assyrian Mercury, since his statues in the British

[4] One of these is figured above, p. 179. The actual statues are both in the British Museum.

[5] This statue is in the Berlin Museum.

[6] See above, p. 176.

[7] Birch, *Ancient Pottery*, vol. i. p. 124.

Museum have a somewhat similar character. Other forms are the fish-god Nin, or Nin-ip; and the deities, not yet identified, which were found by M. Botta under the pavement-bricks at Khorsabad. These specimens have the formal character of the statues, and are even more rudely shaped. Other examples which carry the grotesque to an excess appear to have been designed with greater spirit and freedom. Animal and human forms are sometimes intermixed in them; and while it cannot be denied that they are rude and coarse, it must be allowed on the other hand, that they possess plenty of vigour. M. Botta has engraved several specimens,[8] including two which have the hind legs and tail of a bull, with a human neck and arms, the head bearing the usual horned cap.

Clay statuette of the Fish-god.

Clay statuette from Khorsabad (after Botta).

Small figures of animals in terra cotta have also been found. They consist chiefly of dogs and ducks. A representation of each has been given in the chapter on the productions of Assyria.[9] The dogs discovered are made of a coarse clay, and seem to have been

[8] *Monument de Ninive*, vol. ii. plates 152 to 155.
[9] Supra, p. 293 (No. I.) and p. 294.

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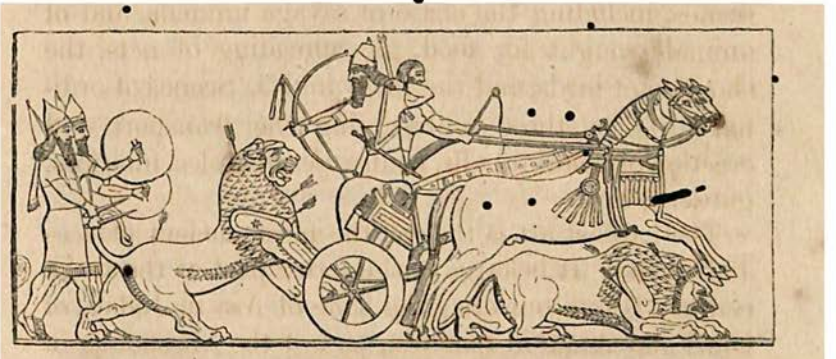
page 291, and the horse and wild bull on page 284. It will be seen upon reference that the animal are very much superior to the human forms, a characteristic which is not, however, peculiar to the style of this period, but belongs to all Assyrian art, from its earliest to its latest stage. A favourable specimen of the style will be found in the lion hunt which Mr. Layard has engraved in his 'Monuments,'[3] and of



Lion-hunt, from Nimrud.

which he himself observes, that it is "one of the finest specimens hitherto discovered of Assyrian sculpture."[4] The composition is at once simple and effective. The king forms the principal object nearly in the centre of the picture, and by the superior height of his conical head-dress, and the position of the two arrows which he holds in the hand that draws the bowstring, dominates over the entire composition. As he turns round to shoot down at the lion which assails him from behind, his body is naturally and gracefully bent, while his charioteer, being engaged in urging his horses forward, leans naturally in the opposite direction, thus contrasting with the main figure and balancing it.

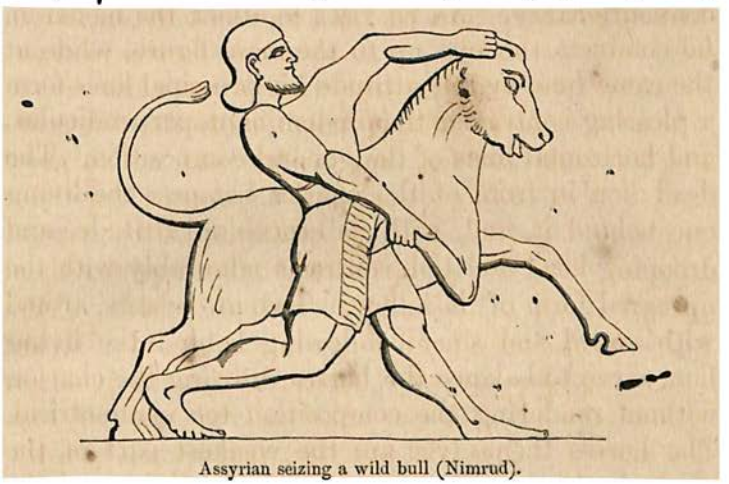
[3] *Monuments of Nineveh*, 1st Series, Pl. 10. [4] Ibid. p. 3.

G:' 6' ? ? : ; > : 9' @:G 6 ;' G:' CG> ' B' 8 6: ;' IF G' ; > ' BH ' >6 ;' : : ; ? 4' G B' G: > ;' T' ? >B : 94' G:' 6 B' 8H' ' G:' @ ; 9 ' G F:A: ' G>A:' ' ? 8CG' C 6A:6 6>G 9 ' B' G:' B:B' ' > >C ' G:' ? 6> CG ' G:' C 6 ; 8C B' G:' : 9:' 8H' ' G:' ? > 6' 8 : ' FG :' > ' G:' B> ? :' ? :' @ 9' G B' > 8 ; :' G B' H 6C H> ' 6:B' ?' >' H :>B 6 ' C 6 >B ' ' G:' H : ; ? 6>6 ' H: H:6 ; C8 > ' >6 ;' G ` 6 > ' 6:B' ' G:' :6: > ' C ? H B 6 ' G:' ; :> ;' G 6' 6' 6 ' ' G:' CG> ' @> >6C:B' G:OGA 6 ' 6:' @:G 6 ;' ' >6 ; ' F G' B' C 8CG 6 ' > 8 ; : ' >6 ;' ; H 6 ' G:> ;' >6 ;' > ' C 6 >B B' > ; ? >@ 9' F G' G:' 8H :> : ;' ' ' B' : F ' xF ' > :6 ; >6 B ' > ? : ;' F G' BF ;' 2>6 ;' BG : ; ' F 6 ' @:G 6 ;' G:' GA 6 ' 6#&%3A:' ' @> >6 JH' G:' G B:B' ; >F 6 ' G:' CG> ' F G 8 ' :6 ; : 6 ' G:' C ? H B 6' ' B9 ? ? : C> ' G:' G B:B' G: ? B: A:B' > :' G:' F:> :B ' H> ' Q ' G:' H C 8 :4' G:' : : B' > :' B ' >6 ;' ' B G ' >6 ;' G:' G:> ; B' H BB:BB' G :' BH

' B' B: ; ?' G> ' ; :B 6B' ' G B' :> 9' H: ;' C>6' @ >B ' 6:> 9' B ' ? 8CG' ? : ' G:' :G 8B' >6 ;' H C:BP B 6> ' H :C:B' > :' B ' 6' G:' :D : ? :4^' G:' @> :' BC:6:B' > :' A: C F ; : ;' >6 ;' C 6 8B: ;' 4^ G:' G86 6 ' BC:6:B' > :' B8H: ' ' G:B: < @8 ' 6' :6: > ' G:9' ' > ' > ' @: F' G:' :A: ' ' G:' >@ A: ; :BC @: ;' C ? H B 6 G:' @:B ' ; >F 6 ' ' G B' H: ;' B' 86 ;' 6' G:' 8 :B' ? 6 ' G:' H> : 6B' ' : ? @ ; : 9' ' ; :BB:B ' G:' >`: : ' ' FG CG' >' :H :B:6 > 6' G>B' @: :6' A:6' NH> :' -+-S ' G:' @:D' NH> :' - [XS ' G:' G B:

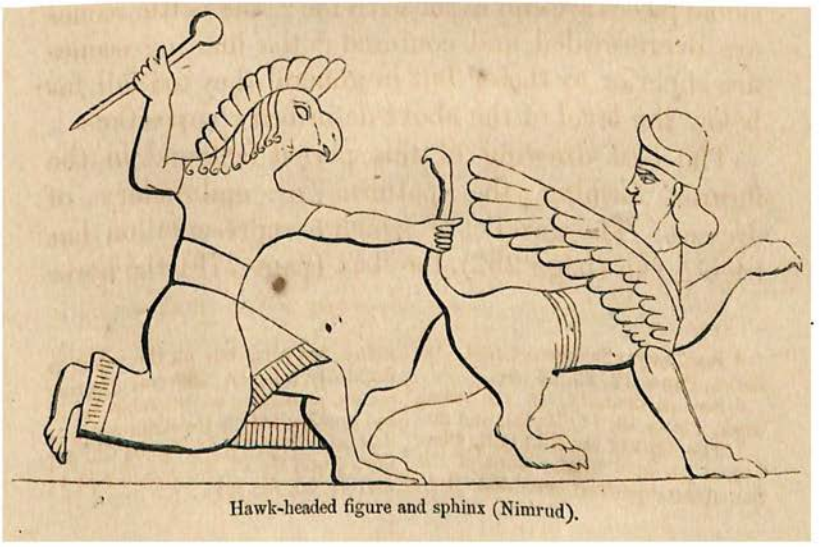
' H' +>>' C / @E@:U%#') $!' I #"' =@ E' :># >4"#!' GB"' 2 ' "A>' ?A2,>' #' +>: >#!' ,@">#' I !' !' CU!' 34 F>4 F>F,E' >: 2: ' +>D>:@,' AB " M' H' +>>' @:" 4B,@:,E!' ' "A>' V@=>' #4> >#!' 2##>## M' 42 # F>:@G,>' =>: "!' ?2:O ' ,@">#' I !IU!IT!' !' @ F' T @:>' :> :>#> ">F' 2 ' "A>' >=G:2 F>:E' 2 ' %' A>' AB "' 2 ' "A>' ? ,F' GB,,' ,@">' F:> ##>#' +>>' ' UU!' M' J '' ' U !' IIK!' @' # ' "2' "A>' AB "' 2 ' "A>' M#' U' @ F' J '' ' UT!' M#' ' @ F' U '' , 2 ' @G2D>' F>#4: G>F!' :>#> = G,>#' "' @ F' ' Q !' M' I K' HH

(page 291), and the horseman hunting the wild-bull (page 284), are from ornamental work of this kind. They are favourable specimens perhaps; but, still,



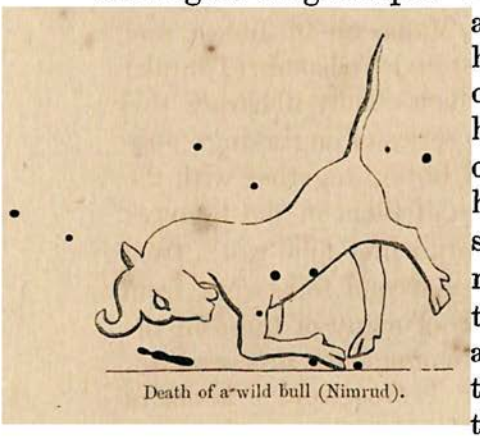
Assyrian seizing a wild bull (Nimrud).

they are representatives of a considerable class. Some examples even exceed these in the freedom of their outline, and the vigorous action which they depict,

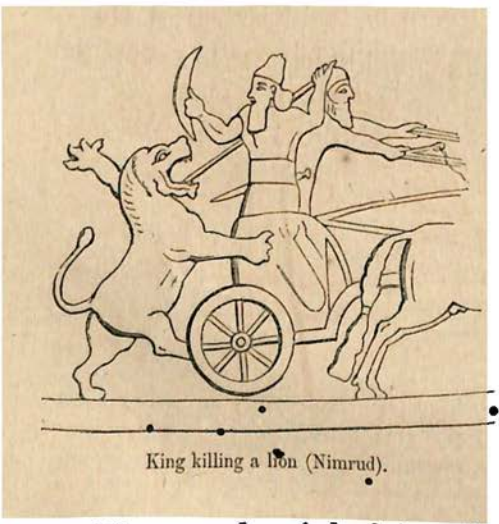


Hawk-headed figure and sphinx (Nimrud).

as, for instance, the man seizing a wild bull by the horn and fore-leg, which is figured page 431. In general, however, there is a tendency in these early drawings to the grotesque. Lions and bulls appear in absurd attitudes; hawk-headed figures in petticoats threaten human-headed lions with a mace or a strap, sometimes holding them by a paw, sometimes grasping them round the middle of the tail; priests hold up ibexes at arm's length by one of their hind-legs, so that their heads trail upon the ground; griffins claw after antelopes, or antelopes toy with winged lions; even in the hunting scenes, which are less simply ludicrous, there seems to be an occasional striving after strange and laughable attitudes, as when a stricken bull tumbles upon his head, with his tail tossed straight in the air, or when a lion receives his death-wound with arms outspread, and mouth widely agape.



Death of a wild bull (Nimrud).

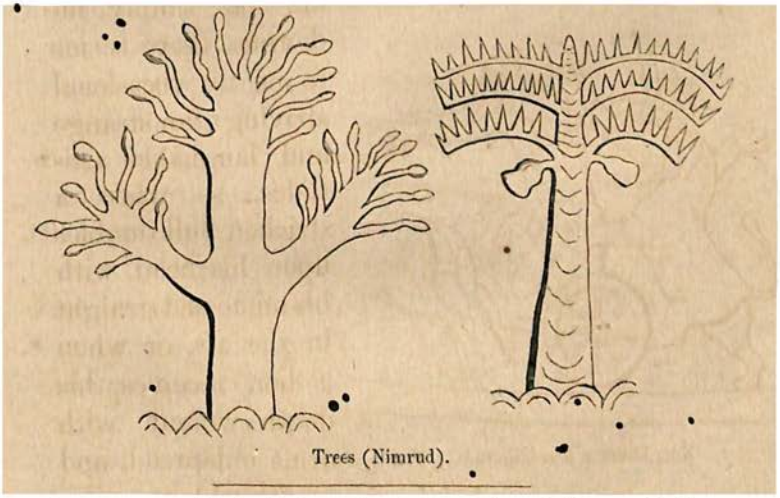


King killing a lion (Nimrud).

The second period of Assyrian mimetic art extends from the latter part of the eighth to nearly the middle

of the seventh century before our era; or, more exactly, from about B.C. 721, to B.C. 667. It belongs to the reigns of the three consecutive kings—Sargon, Sennacherib, and Esar-haddon, who were contemporary with Hezekiah and Manasseh in Judæa, and with the Sabacos (Shebeks) and Tirhakah (Tehrak) in Egypt. The sources which chiefly illustrate this period are the magnificent series of engravings published by MM. Flandin and Botta,[1] together with the originals of a certain portion of them in the Louvre; the engravings in Mr. Layard's first folio work, from pl. 68 to pl. 83; those in his second folio work from pl. 7 to pl. 56; the originals of many of these in the British Museum; several monuments procured for the British Museum by Mr. Loftus; and a series of unpublished drawings by Mr. Boutcher in the same great national collection.[2]

The most obvious characteristic of this period, when

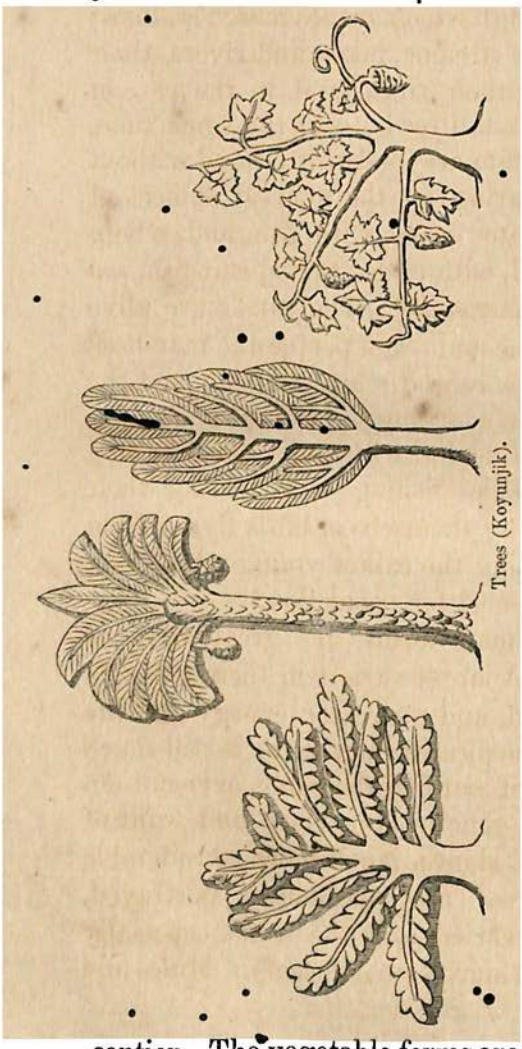


Trees (Nimrud).

[1] *Monument de Ninive*, Paris, 1849. The descriptive letter-press is by M. Botta. The drawings were executed by M. Flandin, and engraved by MM. Sellier, Péronard, Oury, and others.

[2] These drawings have been kindly placed at my disposal by Mr. Vaux, of the Antiquities' Department.

we compare it with the preceding one, is the advance which the artists have made in their vegetable forms, and the pre-Raphaelite accuracy which they affect in all the accessories of their representations. In the bas-reliefs of the first period we have, for the most part, no backgrounds. Figures alone occupy the slabs, or figures and buildings. In some few instances water is represented in a very rude fashion;[3] and once or twice only do we meet with trees,[4] which, when they occur, are of the poorest and strangest character (see page 433). In the second period, on the contrary, backgrounds are the rule, and slabs without them form the exception. The vegetable forms are abundant and varied, though still somewhat too conventional. Date-palms,



Trees (Koyunjik).

[3] See Mr. Layard's *Monuments*, 1st Series, Plates 15, 16, 33, and 39, B.
[4] Ibid. Plates 13, 14, and 33.

B'>6;'A 6:B'> :'; : 6:> : ;'F G'B '>6;'BH 4' G: ' A> : :B'> :J6H :'; C8 ' ' :C 6 B:' G:'CG> >C : ' ' G:' C 86 :B' G 8 G'FG CG'> ? :B' ?> CG' B'> ? B ' > F>9B' A:6 # (G: 'B :>?B' > :B'>6;' A: B' G: ' G B' >6;' ? 86 > 6B' G: ' : :B' >6; ' 6' G:' C>B:' ' ?> BG9' ; B C B' G: ' > ' : : ;B' ' G:' B>?:' ?:' >6 ?> ' 6' G:'Fq;' B :'> :' : : 9' 6 ;8C: ;'F G 8 ' G: ' G>A 6 ' >J 9' @:> 6 ' 6' G:' :6: >' B8GJHC' ' :' H C 8 : ' G:' F> : ' : : ?B' F G' BG' ? ; ' FG: :' G:' B:>' B' :H :B:6 : ; ' F G' C >@B' 8 : ' B > BG' B:>' B: H:6 B' >6;' G: ' ? 6B : B ^' G:' F ;B' > :' > A:' F G' @ ; B4 F ;' BF 6:' >6;' B > B' H: H @' G:' ?> BG:B < > ?<' B' :A ; :6 9' ? :' >6;' ? :' B 8; : ;'4 >6;' G:' > B ' > :B'>' ; : G ' 6'>; 6 6 ' G: C:J :B' 'A O :' FG CG' G:' B' C: ;' ' ; :H C ' F G' 78 : ' 8CG:B' ' >' :6 :' CG> >C : (8B CB' BG 6 ' ' > 6 ' G: ' 86;B' BG' ; BH 6 ' G: ?B: A:B #@ ;B' 9 6 ' ?' : :' ' : : ' 'F> CG 6 ' G:' C> F'9 86 ' FG CG' ' 8H' ' J : ?' ?' G:' 6:B ' 'H :C 6 ^

6'< : > ;' ' G8?>6' ?B' 6 ' :>' >;A>6C:' ?> B' G B' H: ;' ' > : 'A> : 9' 6' G: '> 8; :B' B' 6; : : ;' '@:' >C: ; '>6;'>' :> : ' :6: 9' >6;' :' >HH:> B' 6' ? B ' ' G:' 8 :B'4 @8 ' G: :' B' B ' ?8CG' G:' B>?:' G:>A 6:BB' ' 8 6:' G:' B>?:' A: ?8BC8P > 9' >6;' G:' B>?:' :6: >' C 8?B 6:BB' >6;' F>6 ' ' >C:' 6 ?>' ?B' BG F'>' ?8CG' ? :' C 6B ; : >@ :' ?H A:?:6 ' & B:B' > :' :DC: :6 9' H >9: ; ' G:' > 8; :B' @: 6 ' A> : ; ' >6;' G:' G:>; B' :BH:C > 9' ; : 6:> : ;'F G' :>'B!SJ 'NB:' A: :> S' %8 :B'>6;

C A # # @:" 4B,@:,E' "A>' 4@#>' ' $ ' ' A , ! I#'' +>: >#!' ' "A>' #4B, "B:>#' 2 ' +> @4A>: G' ' RI "A2#>' 2 ' +@:M2 !'G@4OM:2B F#@:>'#" ,' ' +>>' "A>' :> :>#> "@" 2 #2 ' @M>#' :@"A>:' "A>' >a4> " 2 ' "A@ ' "A>' :B,> Q '@ F' C 2""@!') $ ' 'A !'D2,' K) $ ' P' * C' F' ' ,@">9' ' "2' U'' @EB:F!') J +>: >#!' 'U

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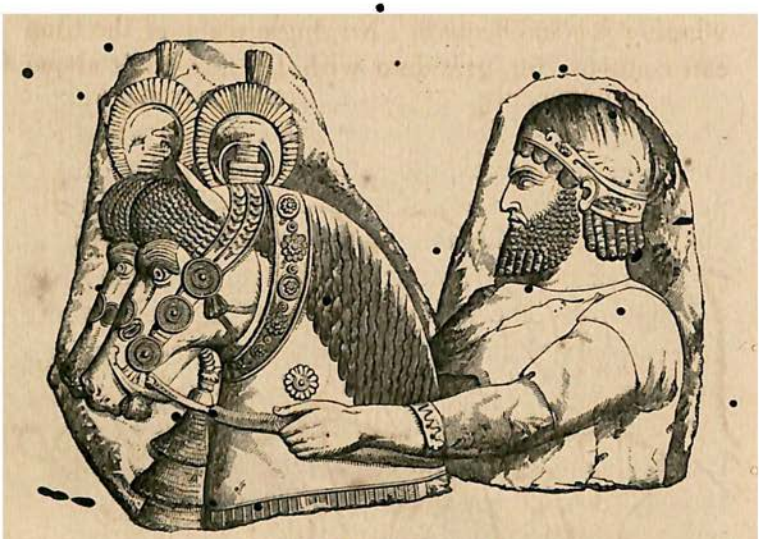
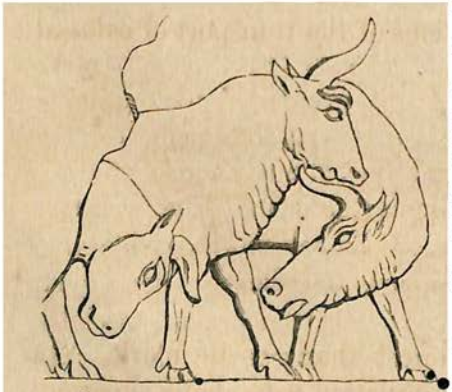


Groom and horses (Khorsabad).

camels are well expressed,[9] but have scarcely the vigour of the horses. Horned cattle, as oxen, both with and without humps, goats, and sheep are very skilfully treated, being represented with much character, in natural yet varied attitudes, and often admirably grouped.

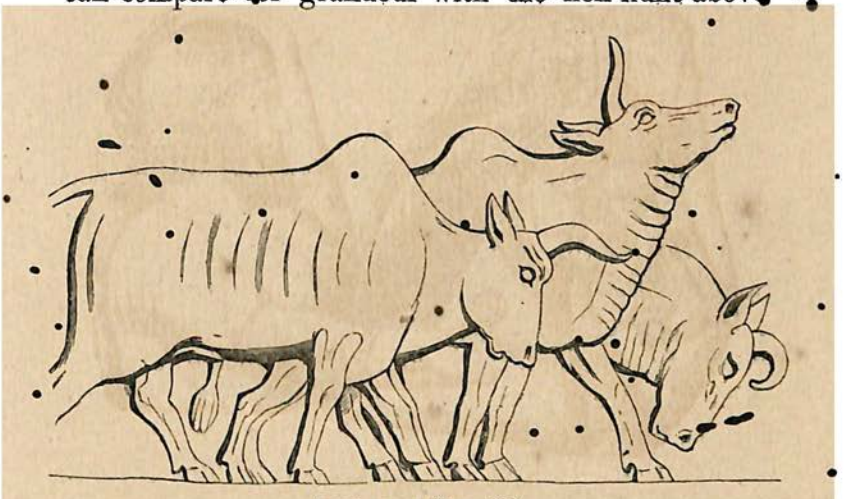


Assyrian oxen (Koyunjik).

The composition during this period is more complicated and more ambitious than during the preceding one; but it may be questioned

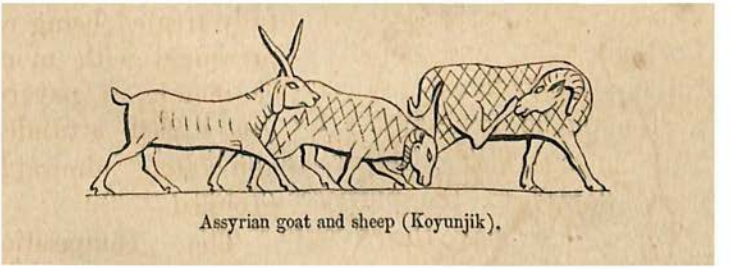
[9] See above, p. 292.

whether it is so effective. No single scene of the time can compare for grandeur with the lion-hunt above



Assyrian oxen (Koyunjik).

described.[10] The battles and sieges are spirited, but want unity; the hunting-scenes are comparatively tame;[11] the representations of the transport of colossal



Assyrian goat and sheep (Koyunjik).

bulls possess more interest than artistic merit. On the other hand, the manipulation is decidedly superior; the relief is higher, the outline is more flowing, the

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[10] Pages 429, 430.

[11] No lion-hunt nor bull-hunt has been found in the sculptures of this time. The chase seems confined to hares, gazelles, and birds.

\.+ 1 ' %' > ? ' '

6 BG' G:' :> 8 :B' ? :' ; :GC> : ' 0 G> ' B' B ' 6' >6 ; :8 ' ' C ?H B 6' B ' 6' G:' FG : ' ? :' G>6' ?>; :' 8H' @9' A> : 9 ' 6> 8 > 6:BB ' ?H A: ;' G>6 ; 6 ' >6 ;' G G: ' 6 BG '

G:' G:B 'H: :C 6' ' BB9 >6'> ' B' 6' G:' G ;' H: ; ' FG CG' :D :6 ; B' ?' / o ' 55 [' ' >@ 8 ' C' ' B96CG 6 B:B' F G' G:' : 6' '& 4 6 65 '' G:' B 6' ' B> G>; ; 6 ' FJ ' >HH:> B' ' G>A:' @: :6' C 6P :?H > 9#F G' 9 :B' 6' 9; > ' >6 ;' F G' 3B>? ? : ' CG8B' 6' 9H ' G:' CG> >C : B CB' ' G:' ? :' > :' >' :BB' : 6A:6G 6>' 9H:' 6' G:' A: : >@ :' ?B ' >#F 6 ; : 8 ' : : ; ? ' BH ' >6 ;' A> : 9' 6' G:' ?B' ' >6 ?> B ' :D : ? :' ? 68 :6:BB' >6 ;' 6 BG' 6' G:' G8 ?>6' 2 8 < :' >6 ;' >2 ; : G<C>C9' 6' G:' G>6 ; 6 ' C 6B ; : >@ 9' @:9 6 ;' G>' ' :A:6' G:' B:C 6 ;' ' ? ; ; :' H: ; ' G:' B 8 C:B' 8B > A:' ' G B' B > :' ' G:' > ' C 6B B ' ' G:' 6 @ :' B: :B' ' B >@B' @ > 6: ;' @9' % ' 8B' ?' G:' 6 G: 6' H> >C:' > ' 1 986J ' >6 ;' ' G:' ; >F 6 B' ?>; :' ?' G: ?#>6 ;' ?' G: 'B >@B 'FG CG' #' F: :' 6' >' ? :' ; >?> : ;' C 6; 6 '@9' % ' $ 8 CG: ' FG ' >CC ?H>6 : ;' % ' 8B' 6' G:' C>H>C 9' '> B ' $ G' G:' B >@B' >6 ;' G:' ; >F 6 B' ?' H> ' ' 8 ' > 6>' :C 64 @8 ' G:' ?: ' 6 9' > :'>CC:BB @ :' ' G:' H8@ C' :6: > 9 ' $9' G:' 6 ; 6:BB' ' G:' %8B:8 ?' >8 G :B ' :' >CC:BB' ' G:' ; >F 6 B' G>B' @: :6' > F: ;' ' G:' H8 H B:B' ' G:' H :B:6 ' F ' FG CG' F ' G8B' G>A:' G:' >; A>6 > :' '@: 6 ' 8B > : ;' ?' @ G' B 8 C:B ' : : >@ : ?B' > :' 6' G: AG :' B ?:_ G>' > :

:' @: F ' CG>H : ' D ' G: :' B' :>B 6' ' @: :A:' G>' G:' 8B:@ >6' ;> :' ' 9 :B' : (. ' 5X+' ' (. ' 55 -S' B' ? :' C :C ' G>6' G:' &: ; :>6' p 4' [-\' ' 4' J J ' G:B:' ; >F 6 B' @: 6 ' > :6

FG:6' G:' B >@B ' F: :' :BG 9' :DP G8 ? : ; ' :6' H :B: A:' :> 8 :B' FG CG' G>A:' ; B>HH:> : ;' ;8 6 ' G:' >6BP H ' ' G:' 6>B' >6 ;' G: ' H :P H> > 6' ' :DG @ 6 ' U

The artists have relinquished the design of representing scenes with perfect truthfulness, and have recurred as a general rule, to the plain backgrounds of the first period. This is particularly the case in the hunting-scenes, which are seldom accompanied by any landscape. In processional and military scenes landscape is introduced, but sparingly; the forms, for the most

Vine trained on a fir (?), from the North Palace, Koyunjik.

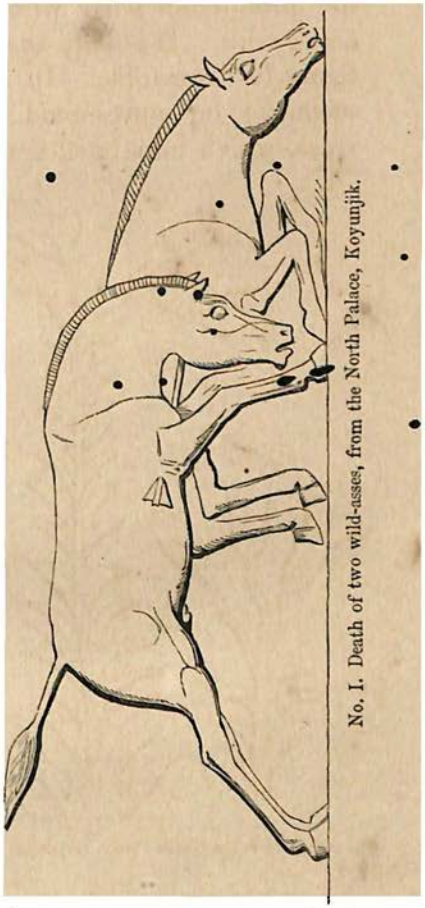
part, resembling those of the second period.[3] Now and then, however, in such scenes the landscape has been made the object of special attention, becoming the prominent part, while the human figures are accessories. It is here that an advance in art is particularly discernible. In one set of slabs a garden seems to be represented. Vines are trained upon trees, which may be either firs or cypresses, winding elegantly around their stems, and on either side letting fall their pendant branches laden with fruit. Leaves, branches, and tendrils are delineated with equal truth and finish, a most pleasing and graceful effect being thereby produced. Irregularly among the trees occur groups of lilies, some in bud, some in full blow, all natural, graceful, and spirited.

Lilies, from the North Palace, Koyunjik.

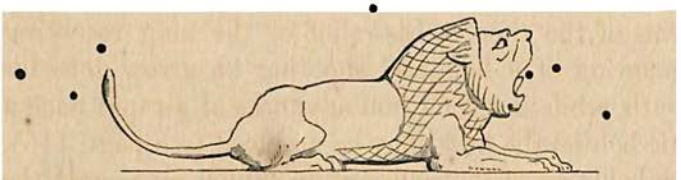
It is difficult to do justice to the animal delineation of this period, without reproducing before the eye of the reader the entire series of reliefs and drawings which belong to it. It is the infinite variety in the attitudes, even more than the truth and naturalness of any

[3] See the illustration (No. V.) on page 388, which belongs to this time; and compare the trees with those represented, supra, p. 434.

particular specimens, that impresses us as we contemplate the series. Lions, wild asses, dogs, deer, wild goats, horses are represented in profusion; and we scarcely find a single form which is repeated. Some specimens have been already given, as the hunted stag and hind on page 282, and the startled wild ass on page 281. Others will occur among the illustrations of the next chapter. For the present it may suffice to draw attention to the spirit of the two falling asses in the subjoined woodcut (No. I.), and of the crouching lion in the woodcut (No. II., overleaf); to the life-like force of both ass and hounds in the representation (No. III., overleaf), and here particularly to the bold drawing of the one of the dog's heads in full, instead of in profile—a novelty now first occurring in the bas-reliefs. As instances of still bolder attempts at unusual attitudes, and at the same time of a certain amount of fore-shortening, two further illustrations are appended. The sorely-wounded lion in the first (p. 443) turns his head piteously towards the cruel shaft, while he totters

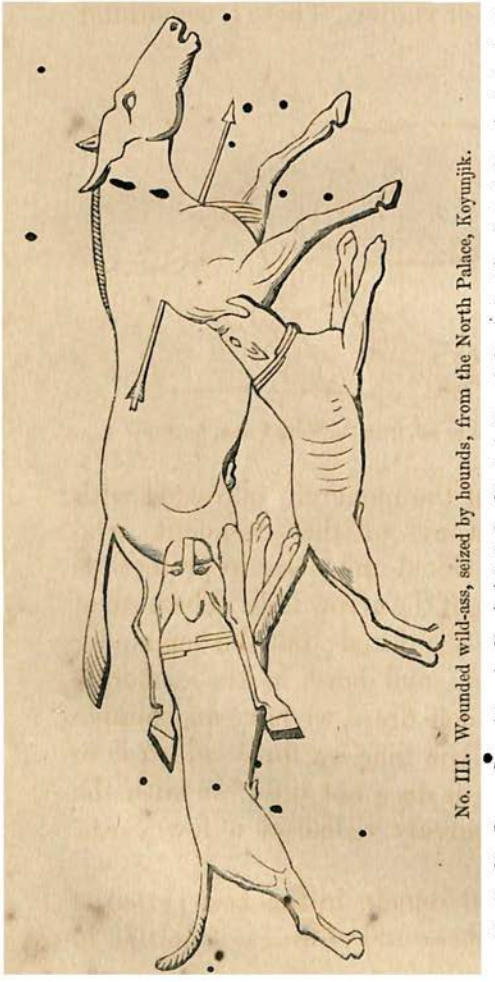


No. I. Death of two wild-asses, from the North Palace, Koyunjik.



No. II. Lion about to spring, from the North Palace, Koyunjik.

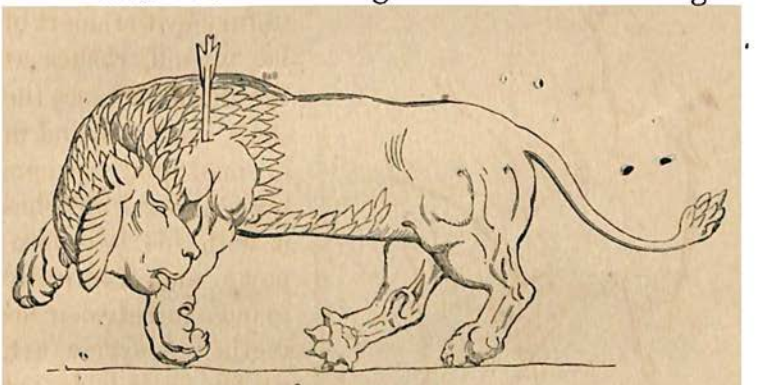
to his fall, his limbs failing him, and his eyes beginning to close. The more slightly-stricken king of beasts in the second (p. 444), urged to fury by the smart of his wound, rushes at the chariot whence the shaft was sped, and in his mad agony springs upon a wheel, clutches it with his two fore-paws, and frantically grinds it between his teeth. Assyrian art, so far as it is as yet known, has no finer specimen of animal drawing than this head, which may challenge comparison with anything of the kind that either classic or modern art has produced.



No. III. Wounded wild-ass, seized by hounds, from the North Palace, Koyunjik.

As a specimen at once of animal vigour and of the delicacy and finish of the workmanship in the human

forms of the time, a bas-relief of the king receiving the spring of a lion, and shooting an arrow into his mouth, while a second lion advances at a rapid pace a little behind the first, may be adduced (see page 445). The boldness of the composition, which represents the first lion actually in mid-air, is remarkable; the drawing of the brute's fore-paws, expanded to seize his intended prey; is life-like and very spirited, while the head is massive and full of vigour. There is something

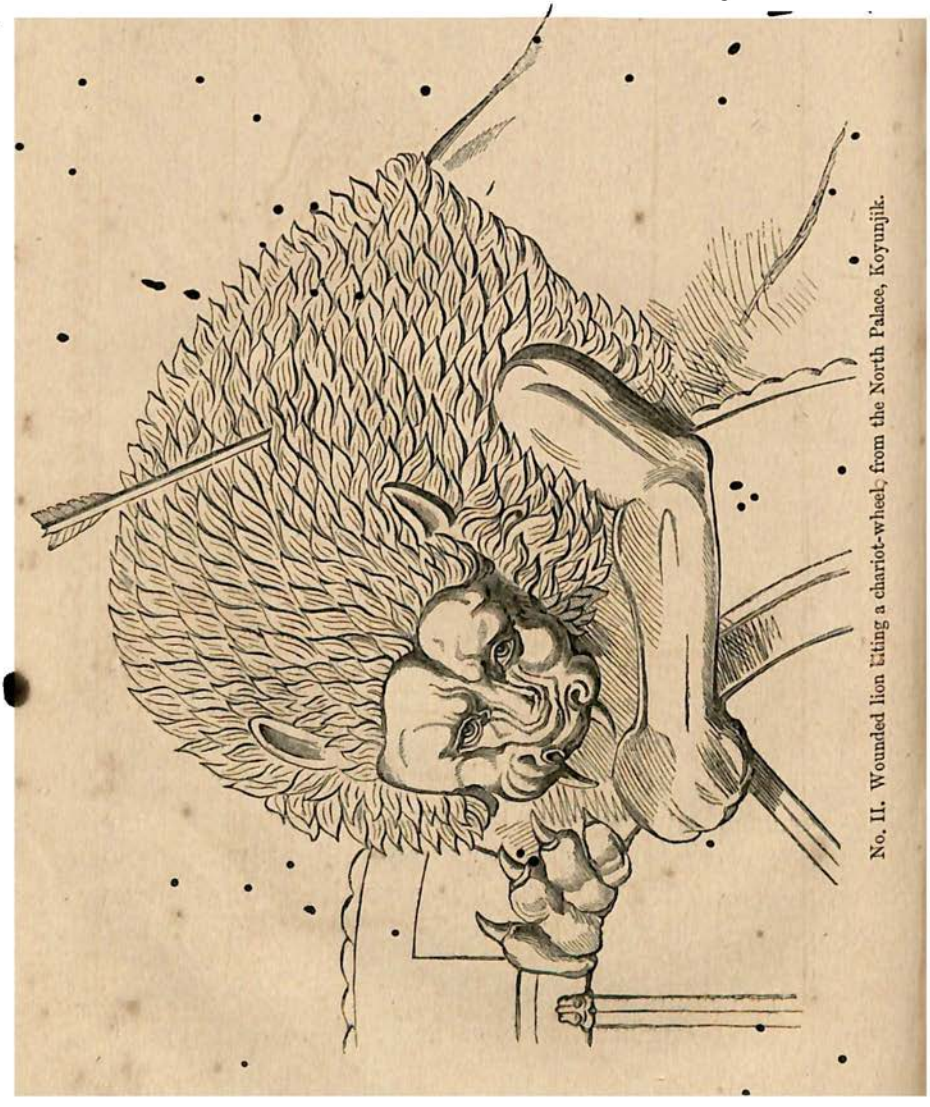


No. 1. Wounded lion, about to fall, from the North Palace, Koyunjik.

noble in the calmness of the monarch contrasted with the comparative eagerness of the attendant, who stretches forward with shield and spear to protect his master from destruction, if the arrow fails. The head of the king is, unfortunately, injured; but the remainder of the figure is perfect; and here, in the elaborate ornamentation of the whole dress, we have an example of the careful finish of the time—a finish which is so light and delicate that it does not interfere with the general effect, being scarcely visible at a few yards' distance.

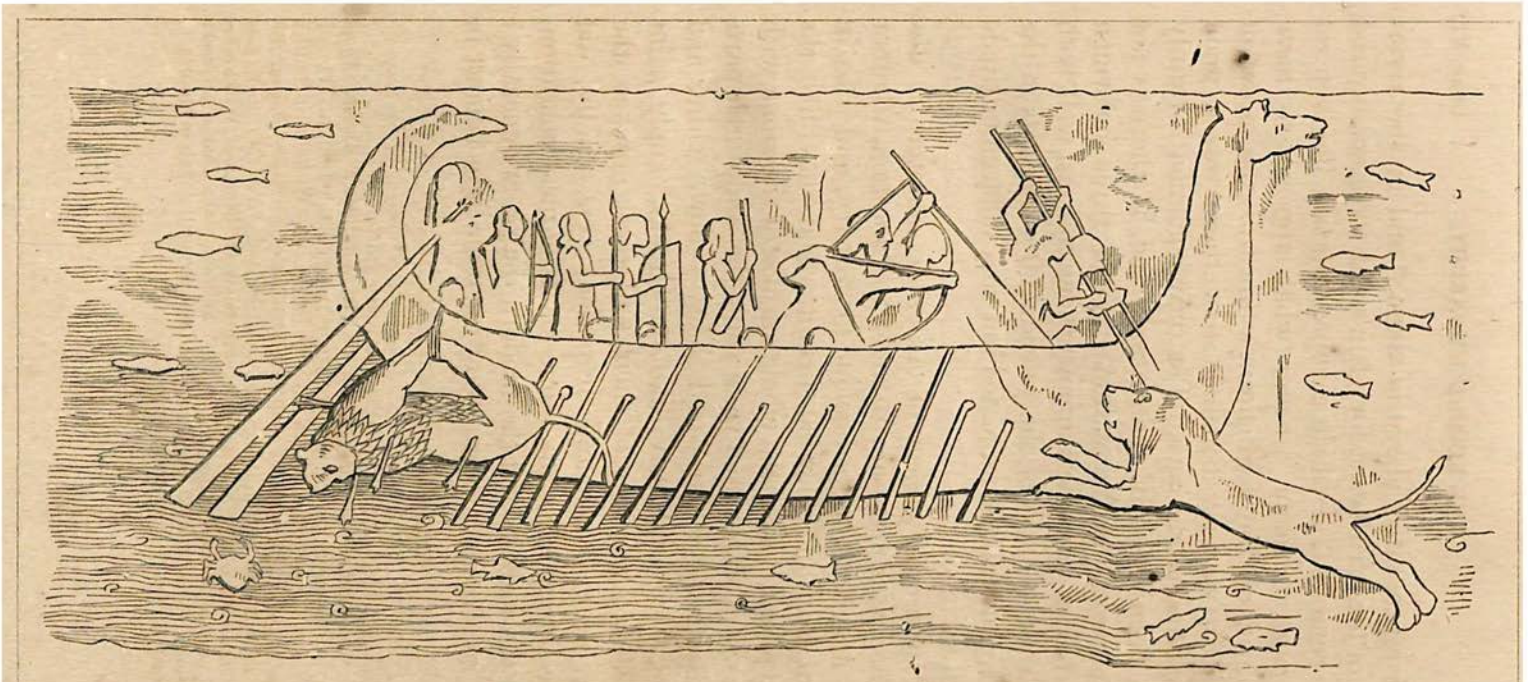
The faults which still remain in this best period of Assyrian art are heaviness and stiffness of outline in

the human forms; a want of expression in the faces, and of variety and animation in the attitudes; and an almost complete disregard of perspective. If the worst of these faults are anywhere overcome it would seem to be in the land lion-hunt, from which the noble



No. II. Wounded lion biting a chariot-wheel, from the North Palace, Koyunjik.

King shooting a lion on the spring, from the North Palace, Koyunjik.



Lion-hunt in a river, from the North Palace, Koyunjik (ab. B. C. 660).

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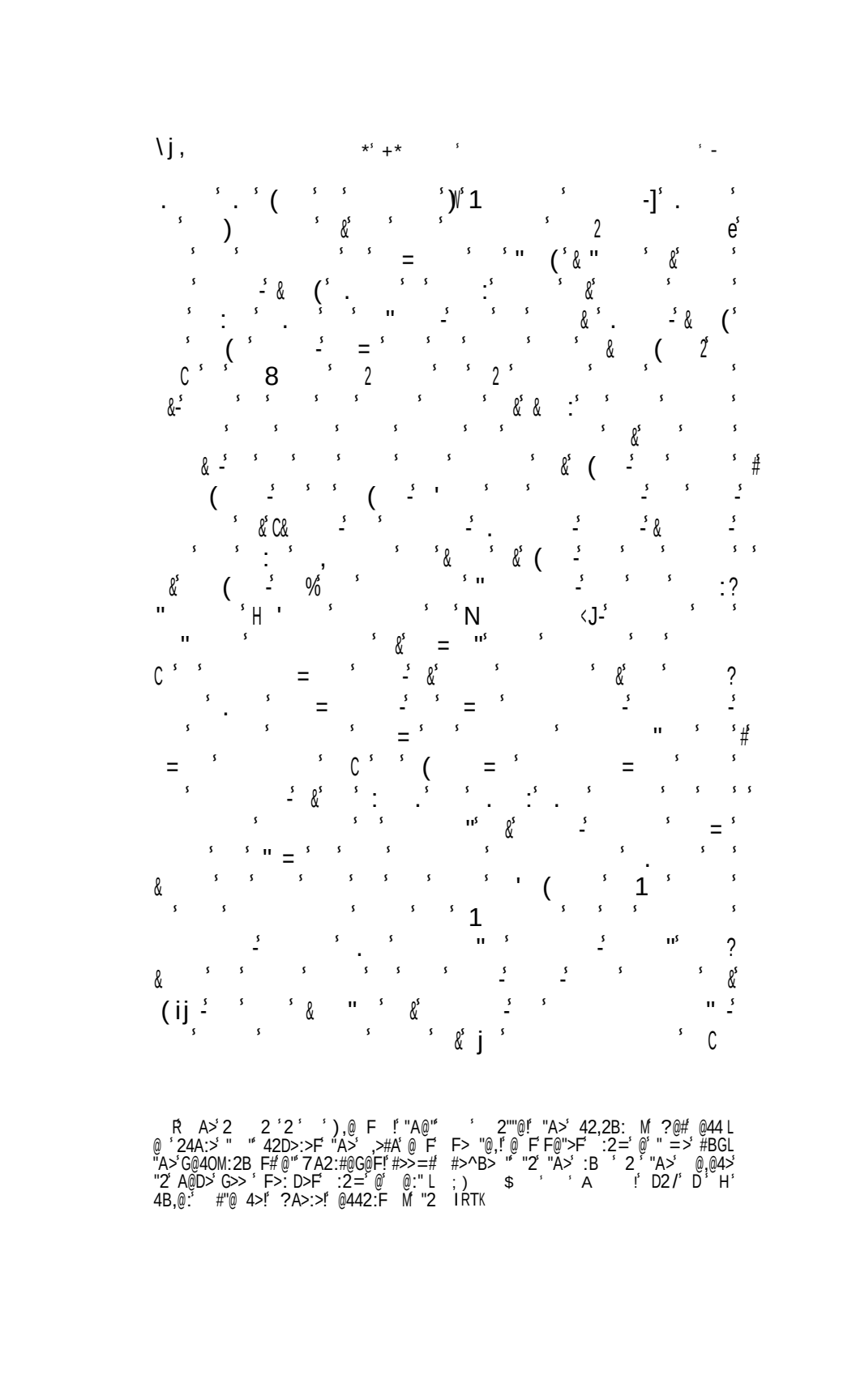

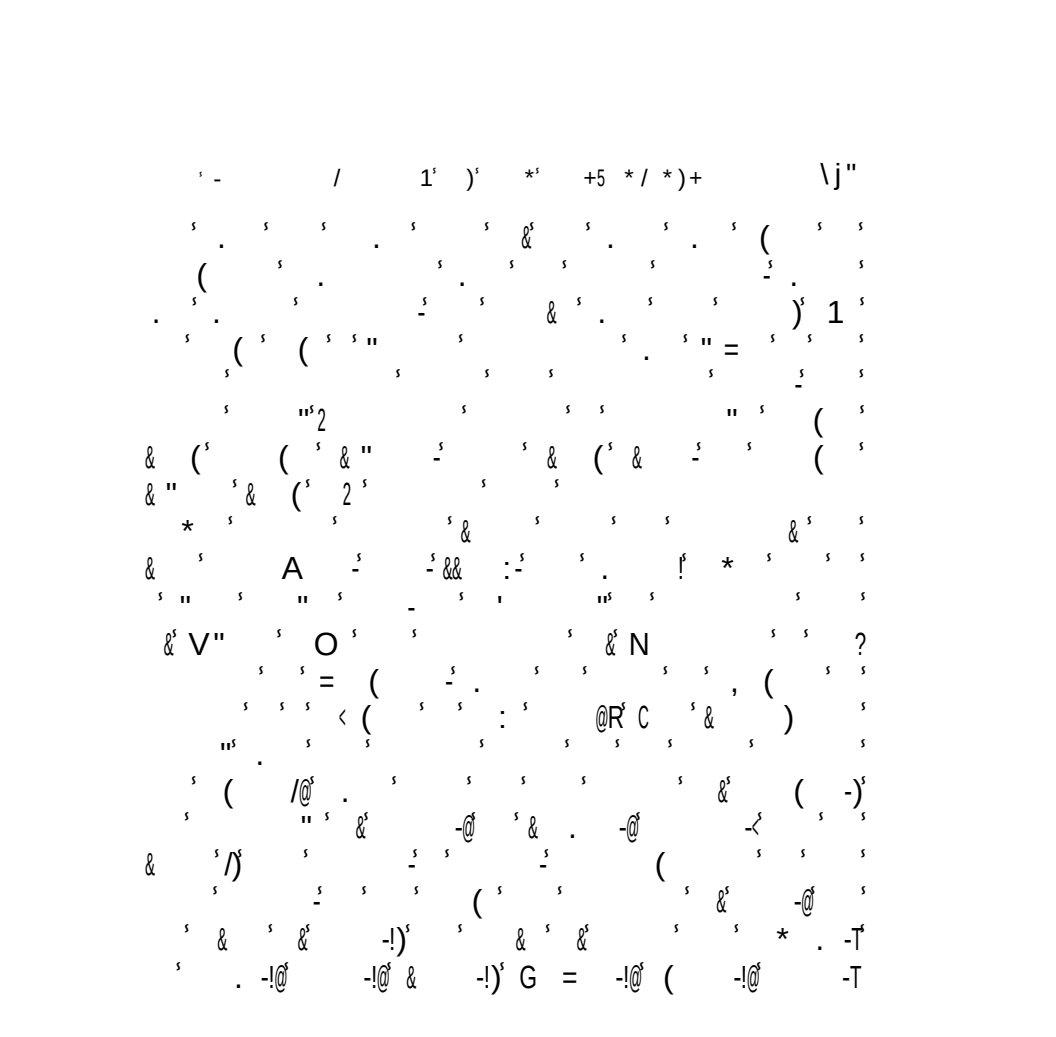

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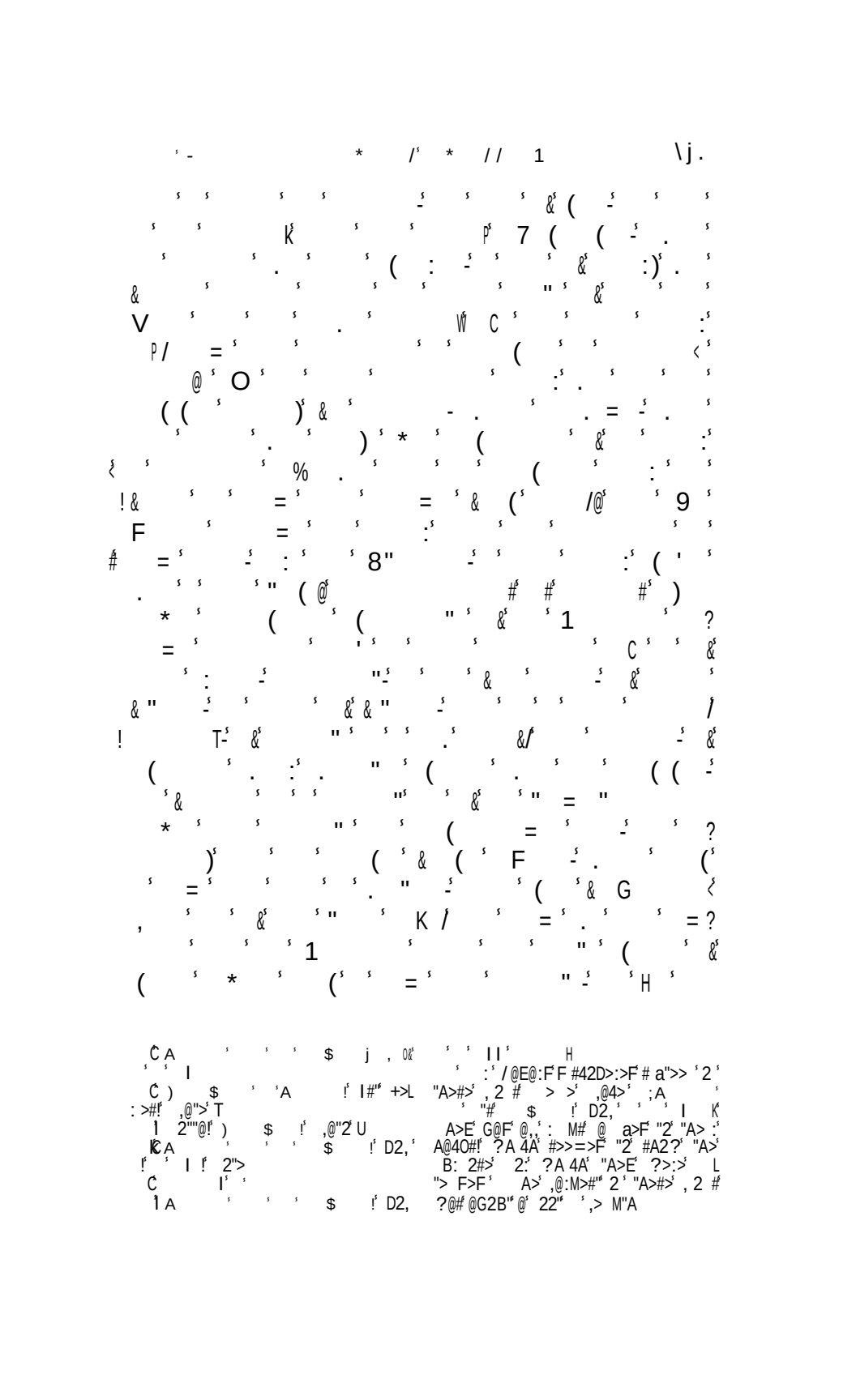
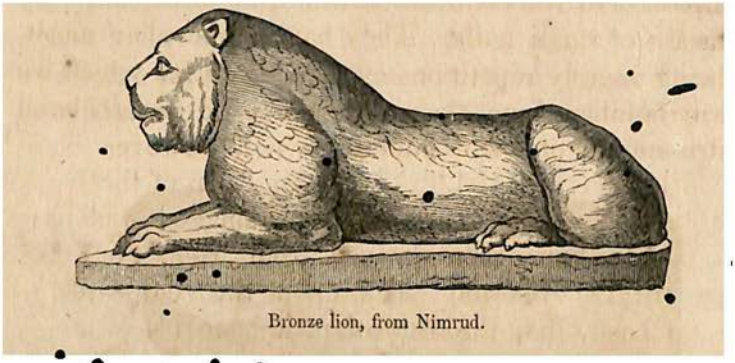


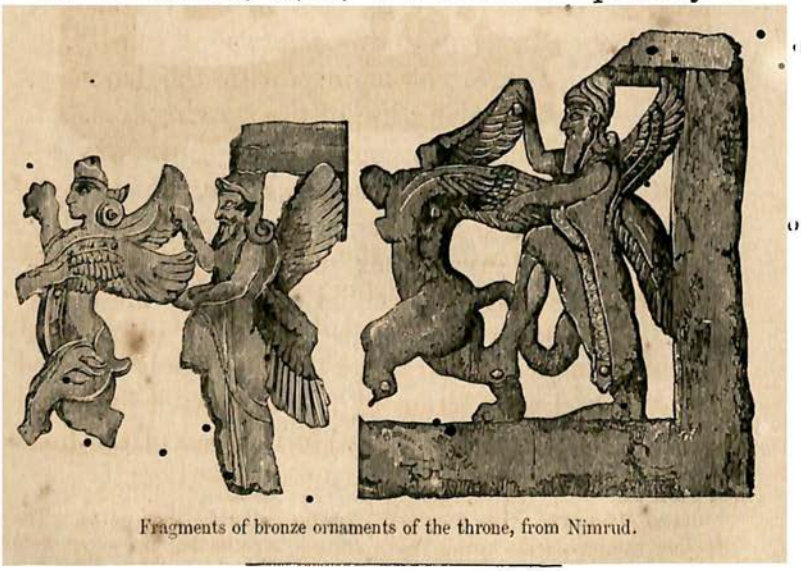
Greeks and the moderns) for the greater works of art, but only for the smaller. The forms of the few casts which have come down to us are good, and are



Bronze lion, from Nimrud.

free from the narrowness which characterises the representations in stone.[8]

Castings in a low relief formed the ornamentation of thrones, stools,[9] and sometimes probably of

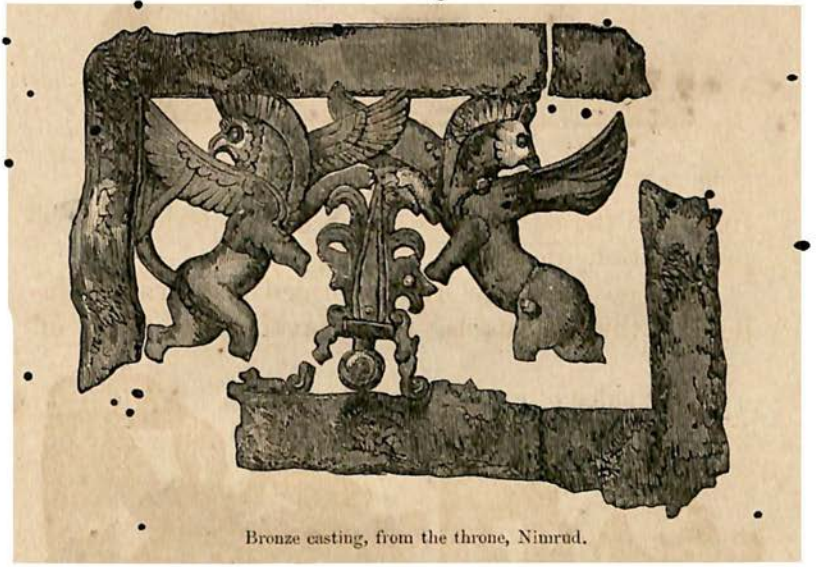


Fragments of bronze ornaments of the throne, from Nimrud.

[8] Supra, p. 423.

[9] See Layard's *Nineveh and its Remains*, vol. ii. p. 301; Botta, *Monument*, Plate 19.

chariots.[1] They consisted of animal and human figures, winged deities, griffins, and the like. The castings were chiefly in open work, and were attached to the furniture which they ornamented by means of small nails. They have no peculiar merit, being merely repetitions of the forms with which we are familiar from their occurrence on embroidered dresses and on the cylinders.

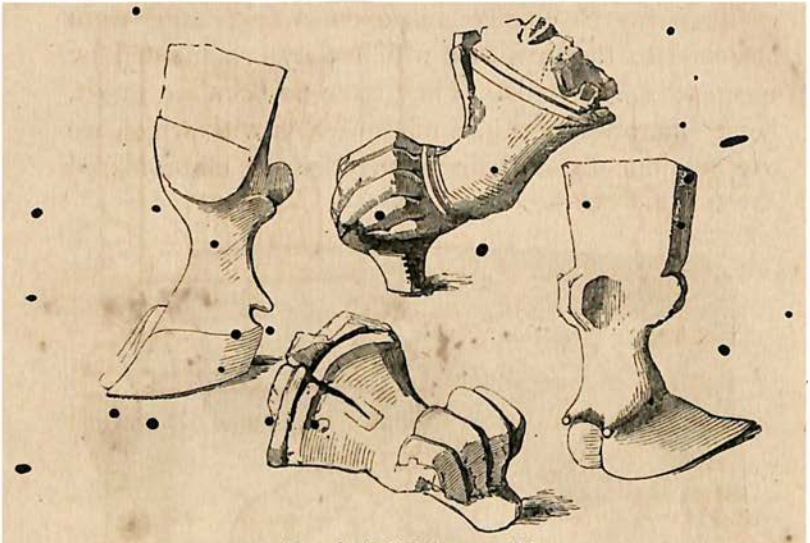


Bronze casting, from the throne, Nimrud.

The embossed work of the Assyrians is the most curious and the most artistic portion of their metallurgy. Sometimes it consisted of mere heads and feet of animals, hammered into shape upon a model composed of clay mixed with bitumen. Sometimes it extended to entire figures, as (probably) in the case of the lions

[1] Botta, Plate 17. It is uncertain whether the ornaments in this case, and in those referred to in the last note, were cast or embossed, since we have only the representations, not the originals themselves. The throne ornaments, however, were actually found (Layard, *Nin. and Bab.* pp. 198-200). They were castings in bronze.

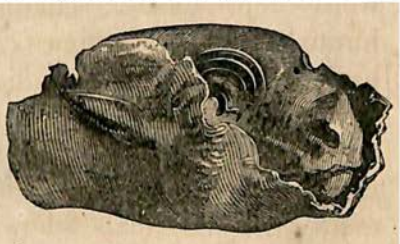
clasping each other, so common at the ends of sword-sheaths (see next page), the human figures which orna-



Feet of tripods in bronze and iron.

ment the sides of chairs or stools, and the like.[2] Occasionally it was of a less solid, but at the same time of

Bronze bull's head from throne.

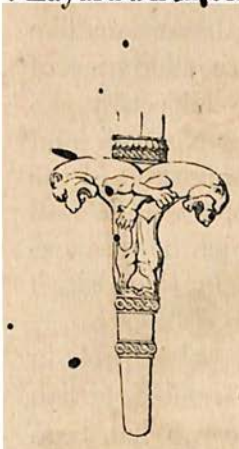


Bronze head, part of throne, showing bitumen inside.

a more elaborate character. In a palace inhabited by Sargon at Nimrud, and in close juxtaposition with a mo-

[2] Here again we cannot be certain whether the sculptures represent embossed work or castings. In delicate fabrics, like sword-sheaths, the former seems more probable.

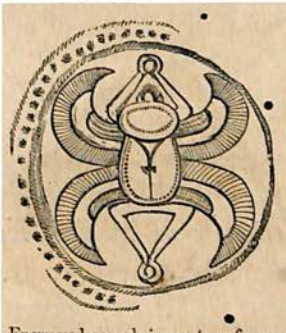
nument certainly of his time,[3] were discovered by Mr. Layard a number of dishes, plates, and bowls, embossed



End of a sword-sheath.
(N.-W. Palace, Nimrud.)

Stool or chair (Khorsabad).

with great taste and skill, which are among the most elegant specimens of Assyrian art discovered during the recent researches. Upon these were represented sometimes hunting-scenes, sometimes combats between griffins and lions, or between men and lions, sometimes landscapes with trees and figures of animals, sometimes mere rows of animals following one another. One or two representations from these bowls have been already given.[4] They usually contain a star or scarab in the centre, beyond which is a series of bands or borders, patterned, most commonly with figures. It is impossible to



Engraved scarab in centre of cup.
(N.-W. Palace, Nimrud.)

[3] Layard, *Nin. and Bab.* p. 196.

[4] Supra, pp. 281 and 283.

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7 G: 'H> : 6B' 6' >' F ' '? ;: > :' ; ?:6B 6B' :'
G:' H :B:6 ' % ' >9> ;' 6' G B' :C 6;' : :B' '
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>' :H :B:6 > 6 ^' FG :' 6' G B' Y 6:A;' 9J;'
$>@9 6'< G:' G>B' ;:BC @:;' G:' ? :' ?H >6 ' G:'
' A:BB: B'B:H> > : 9 ^' G:' C8 8B'B 8;:6 'F ';' F: '
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>B';' BHG 6D:B' '>6' 9H >6' 9H:'4 FG :' B ?: ?:B'
G:>;B' >6;' G:>; ; :BB:B' H8 : 9' 9H >6' > :' 86;
>B' G:' B8@J 6:;#' FG CG'
> :' F: 6 F6' 67B >6;' 2
G>A:' 6 G 6 ' ' 9 >6'
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F ' 6B >6C:B' F:' :A:6'?::'
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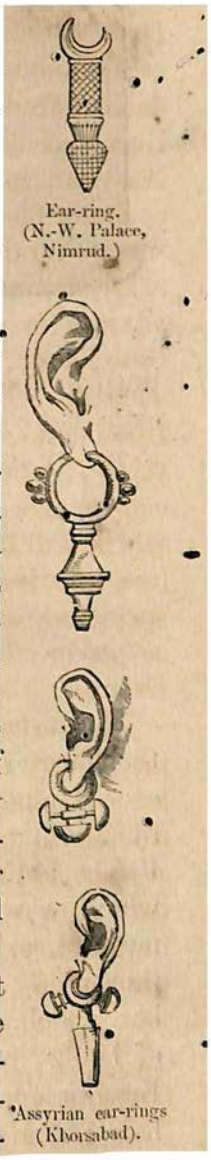
of iron.[5] This practice was unknown to modern metallurgists until the discovery of the Assyrian specimens, from which it has been successfully imitated.[6]

We may presume that, besides bronze, the Assyrians used, to a certain extent, silver and gold as materials for ornamental metal-work. The ear-rings, bracelets, and armlets worn by the kings and the great officers of state were probably of the more valuable metal, while the similar ornaments worn by those of minor rank may have been of silver. One solitary specimen only of either class has been found;[7] but Mr. Layard discovered several moulds, with tasteful designs for ear-rings, both at Nimrud and at Koyunjik;[8] and the sculptures show that both in these and the other personal ornaments a good deal of artistic excellence was exhibited. The ear-rings are frequent in the form of a cross, and are sometimes delicately chased. The armlets and bracelets generally terminate in the heads of rams or bulls, which seem to have been rendered with spirit and delicacy.

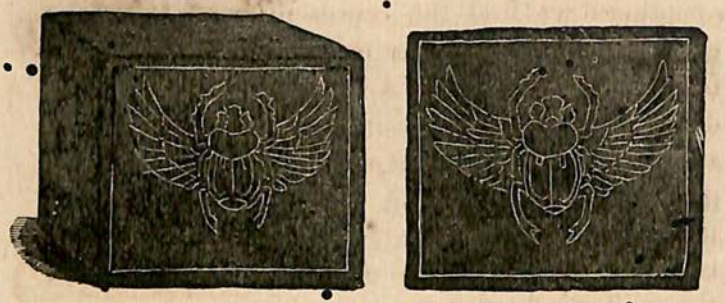
By one or two instances it appears that the Assyrians knew how to inlay one metal with another. The specimens discovered are scarcely of an artistic character, being merely winged scarabæi out-



Ear-ring. (N.-W. Palace, Nimrud.)

Assyrian ear-rings (Khorsabad).

[5] *Nineveh and Babylon*, p. 178.
[6] Ibid. 191, note.
[7] Mr. Layard found a gold ear-ring adorned with pearls, together with a number of purely Assyrian relics, at Koyunjik (ib. p. 595). He has figured it, p. 597.
[8] Ibid. pp. 595, 596.



Bronze cubes inlaid with gold. (Original size.)

lined in gold on a bronze ground.[9] The work, however, is delicate, and the form very much more true to nature than that which prevailed in Egypt.

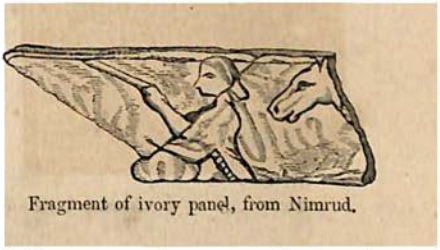
Egyptian scarab (from Wilkinson).

The ivories of the Assyrians are inferior both to their metal castings and to their bas-reliefs. They consist almost entirely of a single series, discovered by Mr. Layard in a chamber of the North-West Palace at Nimrud, in the near vicinity of slabs on which was engraved the name of Sargon.[10] The most remarkable point connected with them is the thoroughly Egyptian character of the greater number, which, at first sight, have almost the appearance of being importations from the valley of the Nile. Egyptian profiles, head-dresses, fashions of dressing the hair, ornaments, attitudes, meet us at every turn; while

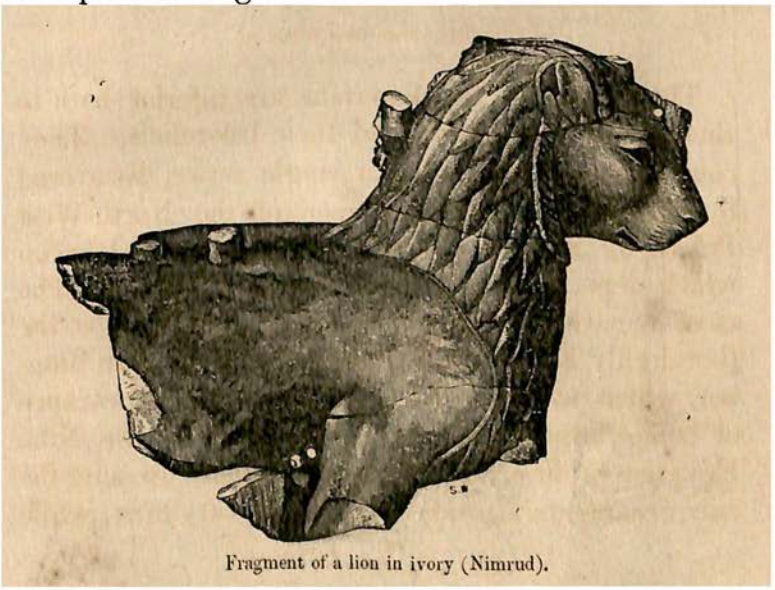
[9] *Nineveh and Babylon*, p. 196.

[10] *Nineveh and its Remains*, vol. ii. pp. 8-10 and p. 205. For other discoveries of ivory objects, see *Nineveh and Babylon*, pp. 179, 195, and 362.

sometimes we find the representations of Egyptian gods, and in two cases hieroglyphics within cartouches (see overleaf). A few specimens only are of a distinctly Assyrian type, as the subjoined fragment, figured by Mr. Layard,[1] and one or two others, in which the guilloche border appears.[2] These carvings are usually mere low reliefs, occupying small panels or tablets, which were mortised or glued to the woodwork of furniture. They were sometimes inlaid in parts with blue glass, or with blue and green pastes let into the ivory, and at the same time decorated with gilding. Now and then the relief is tolerably high, and presents fragments of forms which seem to have



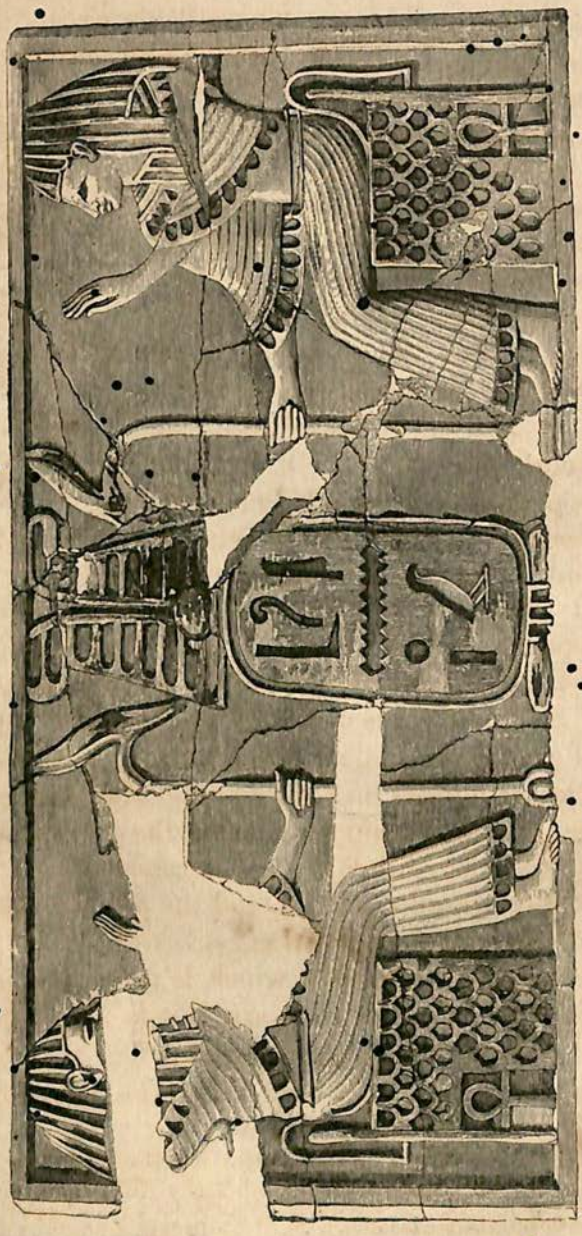
Fragment of ivory panel, from Nimrud.



Fragment of a lion in ivory (Nimrud).

[1] *Monuments*, 1st Series, Plate 89, fig. 8.

[2] Ibid. Plate 90, figs. 17 and 22.



Figures and cartouche with hieroglyphics, on an ivory panel (North-West Palace, Nimrud).

had some artistic merit. The best of these is the fore part of a lion walking among reeds (p. 463), which presents analogies with the early art of Asia Minor. One or two stags' heads have likewise been found, designed and wrought with much spirit and delicacy. It is remarked that several of the specimens show not only a considerable acquaintance with art, but also an intimate knowledge of the method of working in ivory.[3] One head of a lion was "of singular beauty," but unfortunately it fell to pieces at the very moment of discovery.

Fragment of a stag in ivory (Nimrud).

It is possible that some of the objects here described may be actual specimens of Egyptian art, sent to Sargon as tribute or presents, or else carried off as plunder in his Egyptian expedition. The appearance, however, which even the most Egyptian of them present, on a close examination, is rather that of Assyrian works imitated from Egyptian models than of genuine Egyptian productions. For instance, in the tablet figured on the page opposite, where we see hieroglyphics within a cartouche, the *onk* or symbol of life,[4] the solar disk, the double ostrich-plume, the long hair-dress called *namms*, and the *tam* or *kukupha* sceptre[5]—all unmistakeable Egyptian features—we observe a style of drapery which is quite unknown in Egypt, while in several respects it is Assyrian, or at least Mesopotamian. It is scanty, like that of all Assyrian robed figures; striped, like the draperies of

[3] *Nineveh and its Remains*, vol. ii. p. 10.

[4] See above, p. 458. The symbol occurs at the foot of the chairs.

[5] See Mr. Birch's description in Mr. Layard's *Nineveh and its Remains*, vol. ii. p. 11, note.

the Chaldæans and Babylonians; fringed with a broad fringe elaborately coloured, as Assyrian fringes are known to have been;[6] and it has large hanging sleeves also fringed, a fashion which appears once or twice upon the Koyunjik sculptures.[7] But if this

Royal attendant (Koyunjik).

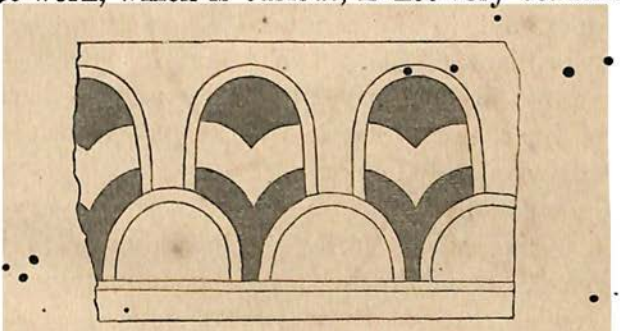
specimen, notwithstanding its numerous and striking Egyptian features, is rightly regarded as Mesopotamian, it would seem to follow that the rest of the series must still more decidedly be assigned to native genius.

The Assyrian enamelled bricks are among the most interesting remains of their art. It is from them alone that we are able to judge at all fully of their knowledge and ideas with respect to colour; and it is

[6] See above, p. 452.

[7] Layard, *Monuments of Nineveh*, 1st Series, Plate 62. The hanging sleeve is, however, worn only on one arm.

from them also chiefly that an analysis has been made of the colouring materials employed by the Assyrian artists. The bricks may be divided into two classes —those which are merely patterned, and those which contain designs representing men and animals. The patterned bricks have nothing about them which is very remarkable. They present the usual guilloches, rosettes, bands, scrolls, &c., such as are found in the painted chambers and in the ornaments on dresses, varied with geometrical figures, as circles, hexagons, octagons, and the like; and sometimes with a sort of arcade-work, which is curious, if not very beautiful.[8]



Arcade work, on enamelled brick (Nimrud).

The colours chiefly used in the patterns are pale green, pale yellow, dark brown, and white. Now and then an intense blue and a bright red occur, generally together;[9] but these positive hues are rare, and the taste of the Assyrians seems to have led them to prefer, for their patterned walls, pale and dull hues. The same preference appears, even more strikingly, in the bricks on which designs are represented. There the tints almost exclusively used are

[8] See Mr. Layard's *Monuments*, 1st Series, Plates 84, 86, and 87.
[9] Ibid. Plate 84, figs. 9 and 12.

H> :' 9: F ' H> :' ::6 BG#' @ 8:' A: ::6' FG : ' >6 ;' >#' @ F6 BG' @ >C ' ' B' B8 :B : ;' G>' GC' C 8 B' G>A:' >; : ; #' @8 ' ' G B' G: :' B' 6 ' :A ; :6C:' G:' BB9 >6B' FG:6' G:9' 8B: ;' G:' H ? A:' G8:B' B: : ? ' :DC:H ' 6' G:' C>B:' ' : ; ' ' G>A:' : ?#H 9: ;' B8@ ; 8: ;' 6 B' ' G: ? ' >6 ;' : ;' G:9' >HH:> ' ' G>A:' 6 ; 8C: ;' A: 9' BH> 6 9 #' A: ::6' G:9' > :C : ;' ' 86 ; B' >6 ;' G:9' CC>B > 9' 8B: ;' G: ' G> ' 6 B ' 'H> :' >6 :' >6 ;' >' ; : C> :' >C3' 'H> :' H8 H : ' > :' 86 ;' > ' 1G B> >; ^' FG :' @ F6' N>B' U > :> ; 9' @B: A: ; S' B' > ' ? :' C ? ? 6' 6' G:' @ C B ' G>6' @ >C 'U' 8B' G:' :6: > ' 6:' ' G: 'C J 6 ' B' 78 : ' 65 ' ' B>9' B ?@ : ' G: :' B' 6 ' B A 6 ' ' > : ' *H >6 ' : :C B' G:' BB9 >6' > B ' B: : B' ' H :>B:' @9' G:' : : >6C:' 'G B' ?B' >6 ;' G:' G> ? 69' ' G B' G8:B' 6 ' ' B > :' @9' >' ; BH >9' '@ G ' >6 ;' B 6 9 C 6 >B : ;' C 8 B

G:' 6 B' 8B: ;' 6' >' B 6 :' C ?H B 6' A> 9' ?' G : :' ' A:' FG CG' > : ' 68 ? @: ' G:9' B: : 6' 6:A: ' ^ ' :DC: : ; ' G:' F 6 ' > :' G:' C ?@ 6> 6B# #' A:' G8:B' FG CG' CC8 ')($ F6' ::6 ' @ 8 : ' ;> ' 9: F ' >6 ;' H> :' 9: F4 ' >6 :' >C' FG : I' 9: F ' >6 ;' A: ::6 ^' ?@ 6> 6B' ' 8 ' G8:B' > :' ?8CG' ? :' C ? ? 6)' "' : ; ' FG : ' 9: F ' >6 ;' @ >C 4#' ; : :H' 9: F ' @ F6' @ >C ' FG : ' >6 ;' H> :' 9: F

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Ć $ ¼A>:>' # @' 4B: 2B# 42 ":@#"' G>L "?>> ' "A>' G: 4O#' @ F' "A>' #4B, "B:>#' "A # :># >4" ' ' "A>' #4B, "B:>#' "A>:>' Ć 2' E>,,2?!' GB"' @GB F@ 4>' 2 ' :>F ' "' # @' :>@#2 @G,>' 42 >4"B:>' 2 ' :' / @E :F¼#!' "A@"' ' A>#>' N' = >' 2 ' "A>' :>F' " "# ?A 4A' :4 = @ >:>' 2: L M @,,E' ,@ F' 2 ' "2' :>4> D>' M ,F M P' ;A ' ' ' $!' D2, ' ' ' I !' 2"> K %) $ ' 'A !' ,@">' IQQ!

M#' !' Q!' @ F' T' :' / @E@:F' #@E# A>' 2B F' B: ,>' @ F' D 2,>"' 2 ' #2=>' 2 ' "A>' = :BF' G: 4O#' ;A ' ' ' : $!' D2, ' ' '] I K!' GB"' A>' F2># "' :> :>#> "' "A>#>' 42,2B:# ' / @E@:F!') $!' I #"' +>: >#!' ,@">' U!' M' H' 2""@!') $ ' ' A !' ,@">' IQQ!' M' ;' G F ' M' ' / @E@:F!') $!' F' +>: >#!' ,@">' QQ!' M' J' !

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>6;' @ F604^'>6;' 9: F' @8:4 FG :' >6;' A:'
::6#^' ?: ?:B' G:' 6B'>:'>B' :F'>B' G::' G:'
86;' G' G:B:' C>B:B' @:6 ' :6: > 9' '>'G8:' 8B:;'
>B ' 6' G:' 8 :B' G8B' F:'G>A:'9: F'@8:'>6;'
FG :' 6'>'@8:' 86;?'>6;'> >6' G:'B>?:'C 8B'
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'FG :'>6;' 9: F' 6'>6' A: ::6' 86;#
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6BB'>:'> 'B8@;8:;' ' '>69'>:' 6 :6B:'>6;'H B P
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6 C:>@:'>B ' G>' @ G' G8:B'>:'6 'H>C:;' 6:'
> > 6B' G:' G: '@8'>:'B:H> > :;'@9'6> F'@>6;B'
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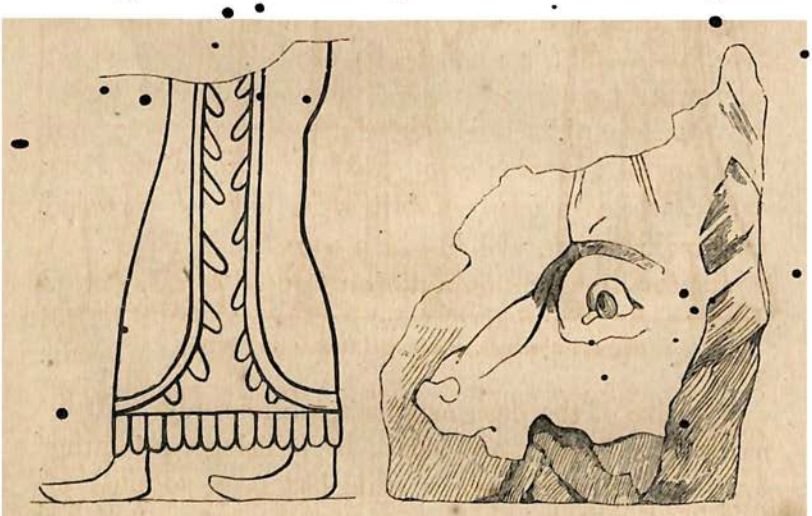
gives a great delicacy and refinement to the colouring, which is saved by it, even where the hues are the strongest, from being coarse or vulgar.

The drawing of the designs resembles that of the sculptures, except that the figures are generally slimmer and less muscular. The chief peculiarity is the strength of the outline, which is almost always coloured differently from the object drawn, either white, black, yellow, or brown. Generally it is of an uniform thickness (as in No. I.); sometimes, though rarely, it has that variety which characterises good



No. I.
Human figure, on enamelled brick (from Nimrud).

No. II.
Ram's head, on enamelled brick (from Nimrud).

drawing (as in No. II.). Occasionally there is a curious combination of the two styles, as in the specimen opposite—the most interesting yet discovered—where the dresses of the two main figures are coarsely outlined in yellow, while the remainder of the design is very lightly sketched in a brownish black.

King and attendants, on enamelled brick (from Nimrud).

The size of the designs varies considerably. Ordinarily the figures are small, each brick containing several; but sometimes a scale has been adopted of such a size that portions of the same figure must have been on different bricks. A foot and leg, brought by Mr. Layard from Nimrud, must have belonged to a man a foot high;[1] while part of a human face discovered in the same locality, is said to indicate, for the form to which it belonged, a height of three feet.[2] Such a size as this is, however, very unusual.

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[1] Birch, *Ancient Pottery*, vol. i. p. 127. The fragment is figured in Mr. Layard's *Monuments*, 1st Series, Plate 84, fig. 2.

[2] Birch, p. 129.

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FG CG' B: : ?B' ' G>A:' @: : 6' C :C 9' :6; : : ; ^' G:' Ù BC> : ' > ; ' F :' ' G:' 6 <B' > >' B' : 9' ' @:' 8: ' 0 G:6 ' G F:A: ' F:' 6;' :9:@> B' >6;' :9:P @ FB' FG : ' FG :' G:' 66: ' H> ' ' G:' :9:' B' 9: F ^' G:' @ >; :' ' BF ;B' 9: F < >6;' G B:B< G N B' <@ 8: ^' F:' B: : ?' ' G>A:' H ' G> ' B ?: ?:B' > ' >69' > : ' C>' C 8 ' F>B' 6 :6 6> 9' 6: :C : ; 4 ' G:' > B ' ? 6 'QG ?B: ' ' C: > 6' G8:B ' >6;' @: 6 ' G: : :' @ : ;' ' :6; : ' B ?:' @J:C B' 86 8 9' G8B' F:' ?8B ' 6 ' C 6C 8; :' ?' G:' C 8 B' ' Ź ; :BB:B' >6;' G B: >HH 6 B' 6' G:' @ C B (FG CG' > :' Ù G : :' 6 9 ' 9: F ' @ 8: ' >6;' FG : G> ' G:' BB9P >6B' 8B: ;' 6 ' G: ' G8:B' G>6' G:B: ' 2:A:6' ' G:' @:B' ' G: ' 6 B ^' ' B' > ' ?: :' H @>J@ h' G> ' G:9' : ?H 9: ;' >' A> : 9' ' 6 B' 6' G: ' >HH> : ' @8 ' ; ;' G ' > : ?H ' ' :6; : ' G> ' A> : 9' 6' G:' ; P 6> 9' H> 6 : ;' @ C B 2

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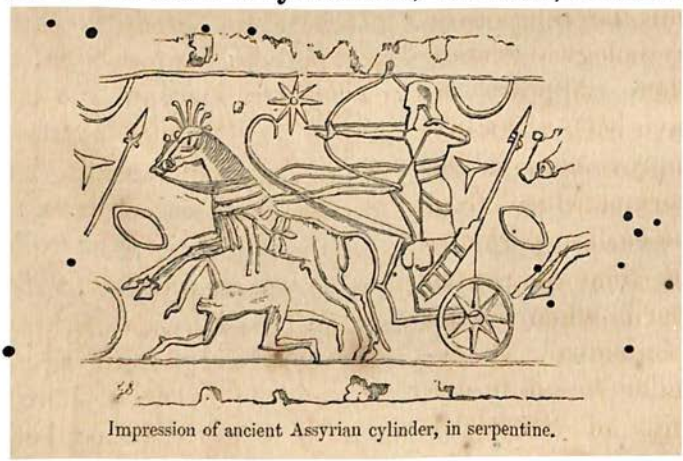
Ć +>>' '$>' "? 2' 2:>' ,>M# 2 ' @' A2:#>' ' @' :@M=> '" MB:>F' GE' $": ' /@E@:F!' C&"# ' " ' F' +4: >#!' $,@"Ź Ul' M' IU S G F ' M ' R ' G F ' M ' I Í G F!' M!' IU % >,,2?!' ?A ">!' @ F' @' @,>' G,B>' 2:' M:>> !' @:>' "A>' 2 ,E' 42,2B:# 2 ' "A>' F:>## 2 ' "A>' O M' MB:>F' @G2D>!'

URI % ' 2""@%' :@M=> '" MB:>F' ,@"2' IQQ!' '" K' #' @' B ^B>' # >4 5' => ' @F' "' 42 "@ >F' "A>' :2G>#' 2 ' "A>' O M' "3' ?>,,' @#' A #' A>@F5F:>##!' ?>%#A2B,F' :2G@G,E' A@D>' ,>@: '" "A>' :>@,' AB>#' 2 ' "A>' :2E@,' M@: => "# ' :4A!' 5 " " ' & 'D2,"' ' ' I '" / @E@:F!' ; " ' " ! ' 2 , &" ' ! IJJ!' 2">

painted and enamelled on one side only, the flux and glazes used being composed of silicate of soda aided by oxide of lead;[3] thus prepared, they were again submitted to the action of fire, care being taken to place the painted side upwards,[4] and having been thoroughly baked were then ready for use.

The Assyrian intaglios on stones and gems are commonly of a rude description; but occasionally they exhibit a good deal of delicacy, and sometimes even of grace. They are cut upon serpentine, jasper, chalcedony, cornelian, agate, sienite, quartz, loadstone, amazon-stone, and lapis-lazuli.[5] The usual form of the stone is cylindrical; the sides, however,



Impression of ancient Assyrian cylinder, in serpentine.

being either slightly convex or slightly concave, most frequently the latter. The cylinder is always perforated in the direction of its axis. Besides this ordinary form, a few gems shaped like the Greek,

[3] Birch, l. s. c.; Layard, *Nineveh and Babylon*, p. 672.

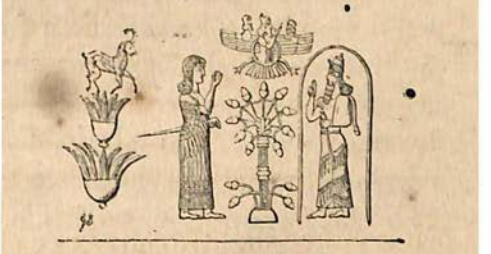
[4] This is evidenced by the bricks themselves, where we can often see that the melted enamel has run over and trickled down the sides. (See Birch, *Ancient Pottery*, vol. i. 128.)

[5] King's *Ancient Gems*, pp. 127-129; Layard's *Nineveh and Babylon*, pp. 602-604.

that is, either round or oval, have been found; and numerous impressions from such gems on sealing-clay shew that they must have been tolerably common.[6] The subjects which occur are mostly the same as those on the sculptures—warriors pursuing their foes, hunters in full chase, the king slaying a lion, winged bulls before the sacred tree, acts of worship and other religious or mythological scenes. There appears to have been a gradual improvement in the workmanship from the earliest period to the time of Sennacherib, when the art culminates. A cylinder found in the ruins of Sennacherib's palace at Koyunjik, which is believed with reason to have been his signet,[7] is scarcely surpassed in delicacy of execution by any intaglio of the Greeks.

Assyrian seals.

Assyrian cylinder, with the Fish-God.



Royal cylinder of Sennacherib.

[6] See Mr. Layard's *Monuments of Nineveh*, 2nd Series, Plate 69, Nos. 1 to 32.

[7] Layard, *Nineveh and Babylon*, p. 160; King, *Ancient Gems*, p. 129.

@ C B F: :' C ?H B:;' F>B ? D:;' F G B 8@@ :' ' U
A: : >@ :4 @ :' ' G:'H8 H B:' '@ ; 6 ' ' : G: '
(>' H >C C:#C ? ? 6 ' G:' BB9 >6B F @ :'
9H >6B^' >6;' @:' $>@9 6 >6B ^' G B @ :' B '
>HH:> B 6 @:'B86 ; :;'@ C B'@8 '@>B@::6 ;:B 9:;'
@9 @:'@:>' ' @:' 6 6 @:'C>B:' ' @:'@> :;'@ C B'
:>A 6 '@:G 6;' 'G F:A: ' 6 @:'C >9 >C:B ' @:'
B > B# ' B :H B' @:' B `:' >6;' BG>H:' ' @:' @ C B
A> 9 'U @: ' > :' ? B ' C ? 6 9 B78> :' ' 6:> 9 U
B 4<@8 ' CC>B 6> 9# @:' BG>H:' ? :' :B:?@ :B G> '
' @:' >6C :6 ' 9H >6 >6;' ? ;: 6 6 @B@'@ C #'
@:'F ; G @: 6 '>@ 8 <G> ' @:' :6 G'Q 6;' @:' G C P
6:BB G> ' ' F @ ;B ' @:' F ; G ' Q G:' :> :B '
B `:' ' FG CG @:'B78> :'@ C B > > z' B >' :6 G >6;'
F ; G ' >@ 8 ' F ' :: ^' ?' G B ?>D ?8?' G:9
;:BC:6;' @9 ?>6 ;' >;> 6B ' >' ? 6 ?8?' #
6:' ' G:' @ 6 ' @ C B > :' B?> : '4 G:9
B: ; ?' ?8CG :DC::;' >' ' 6 :6 G ^' >6;' 6 F ; G
A> 9 ?' B D ' B:A:6 >6;' >' G> ' 6CG:B ' 0 G> :A: '
G:<Q >H:' >6;' B `:' ' @:' @ C B' G: ' G C 6:BB B
6:> 9 86 ?' G:' G 66:B ' @: 6 ' >B ?8CG >B G :'
6CG:B 6 G C 6:BB '>6; G:' G C :B '6 ' ? :' G>6
8 ' 6CG:B ' 8 '>6; > ' >CG @ C 'F>B ? ;:
6 >' F ;:6 >?:' ' ? 8 ;< % B ' ' G:' @> :;
@ C B F: :' 6BC @:;'6 'G F:A: ' :' G:' G> ;e>6 ^
G:' 9H >6 # >6;' G:' $>@9 6 >6 < F G >6 6BC HP
6 6 >' B?> ' B78> :' ' A>' ;:H :BB 6 6:> ' G:

C 0 ,O #2 ! ' "A>'@B"A2:W + &8 < A>',2 M>#" @:>'IUI' 4, "#' +>>' '
!& # 'D2,' ' IQ' :4A! ;4"> ' 5" " ' & 'D2,' ' 'I K
& 'D2/' ' ' I ! IC' > 4>' ' G F' '
"A>'42= ,@ "# 2 '"A>' #:@>, ">#?A> ' I+B :@!' 'T 'H
"A>E' :>4> D>F N' 2' #":@?' 2:' "A> :' 7'2 75" " ' &+ ' D2,' '
G: 4O# P * a 'D 'R5I K 'IQ5I '" 0 ,O #2 ! 5" " ': 4'
I :4A! ' I " ' I#" +>: >#! D2,' ' 'TR
7 G F' K' I ! @ F' 'I T C :4A! ' I U K / @E@:F! ; " '
C ?> "E5"?2' 4A>#! @442:F M "2' "! ' ' " 'D2,' ' ' I R
' :4A' 'I TK

\[+ *' +* ' ' -

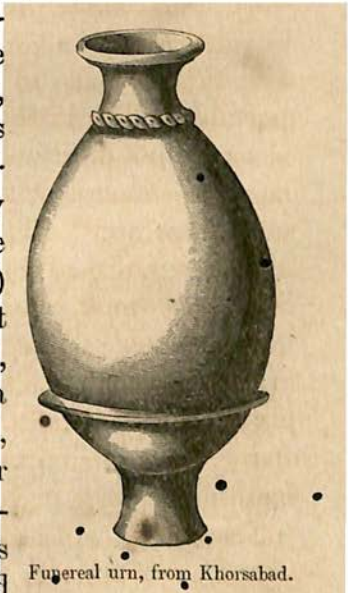
Ú C:6 :' ' 6:' ' G:' @ >;' >C:B' @8 ' F G' 6:' FG CG'
: G: ' C A: :;' G:' FG :' ' 6:' B8CG' >C: R' : B:' >6'
> ' *G:' : ; :' ' B' 86C: > 6' FG: G: ' G:' 6BC HP
6' F>B' B > ? H: ;' 8H 6' G:' @ C B' @9' >' B 6 :' ? H :BP
B 6' ' FG: G: ' ' F>B' 6BC @: ;' @9' G:' H : '#F G'
>' >6 8 > ' B 9 : ' % ' $ CG' G 6 B' G:' ? : ' F>B'
G:' ? :>6B' 8B: ; ' K' >B' G:' 8@ :' ' F 6 ' 8H 6' :>CG'
@ C ' F 8 ;' G>A:' @: : 6' : 6 ; :BB L'# % ' *J>9> ; #G F
Ú' :A: ' B# >' ; : :6 ' H 6 6 ' Ú
6' BH: > 6 ' ' G:' BB9 >6' F> 6 ' B ? :' ? :6 6
ÚG>B' @: : 6' ? >; :' ' G:' : > C >' C9 6; : B' >6;' >@P
: B' FG CG' 6# BB9 >' :H >C: ;' G:' H> CG ? :6 ' u6;'
H>H9 8B' ' G: ' 6> 6B' @: 6 ' G:' ? B' ; 6> 9'
F 6 ' ? > : > ' 6' 8B:' G 8 G' G:' C 86 9 # G:'
H8 9' >6 ;' 6:6:BB' ' G:' ? > : >' G8B' : ? H 9: ;' B
#A: 9' : ? > >@ : ' >B' F: ' >B' B' B :6 G' ' FG CG'
>; A>6 > :' F>B' > :6' ' ? > :' G:' C9 6; : B' G F'
>6;' G8B' >' 6C:' ' :6; : ' G: ?' CG:>H: ' >6;' ? :'
H >@ : ' G:' : < > C >' ' G:' C9 6; : B' >6;' >@ : B'
B' B ? : ? :B' 86 >`: ;' 4 B ? : ? :B' G:' 6> 8 >' B8 ' >C:'
G>B' @: : 6' C A: : ;' F G' >' K' A : 8B' B C 8B' `:' '
FG :' C > 6 L^ G:' C 8 ' A> :B' @: 6 ' B ? : ? :B'
>' iE G' H BG: ;' @ F6' : ? :B' >' H> :' 9: F'
B ? : ? :B' H 6 ' >6;' B ? : 486:B' >' A: 9' ;> ' 6 '
6:> 9' @ >C # G:' ? B' 8B8>' C 8 ' G F:A: ' '
C9 6; : B' B' H> :' 9: F' >6;' ' >@ : B' G' : ;' '
H 6 ' G: :' B' 6 ' ; 8@' G>' 6' @ G' G:B:' C>B:B' G:'
CG> >C : B' F: :' ? H :BB: ;' B:H> > : 9' @9' G:' G>6; ' >
Ú' B ? > ' : >' B 9 :' ' ;' @: 6 ' 8B: ;' ' G:' H8 H B:
: > C >' A BB: B' >`: ;' >6. #86 >`: ;' F: :' 6'
C ? ? 6' J B:' >? 6 ' G:' BB9 >6B' ' ; 6 6 ' >6;

C, :4A!' ' I T
' >9> Z' "' B' C
' 8H >' H' .-X . . .

% :4A!' 5" " ' & 4 ' D2,' '
' I I
H' G F' ' I I Q

Assyrian vases, amphoræ, &c. (after Birch).

other domestic purposes. They comprised vases, lamps, jugs, amphoræ, saucers, jars, &c. The material of the vessels is fine, though generally rather yellow in tone.[7] The shapes present no great novelty, being for the most part such as are found both in the old Chaldæan tombs,[8] and in ordinary Roman sepulchres.[9] Among the most elegant are the funereal (?) urns discovered by M. Botta at Khorsabad, which are egg-shaped, with a small opening at top, a short and very scanty pedestal, and two raised rings, one rather delicately chased, by way of ornament. Another graceful form is that of the large jars uncovered at Nimrud (see next page), of which Mr. Layard



Funereal urn, from Khorsabad.

[7] Birch, *Ancient Pottery*, vol. i. p. 120.
[8] Supra, pp. 115, 116.
[9] Birch, p. 121.

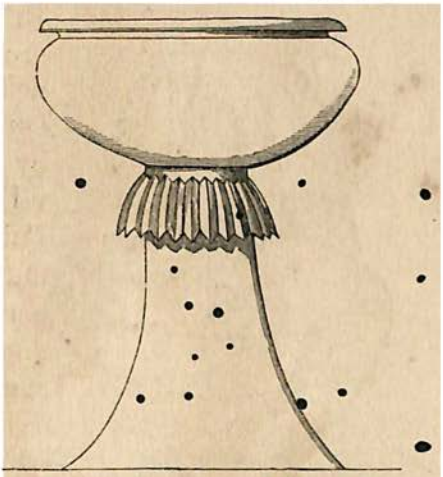
Nestorian and Arab workmen, with jar discovered at Nimrud.

gives a representation.[1] Still more tasteful are some of the examples which occur upon the bas-reliefs, and seemingly represent earthen vases. Among these may be particularised a lustral ewer resting in a stand supported by bulls' feet, which appears in front of a temple at Khorsabad,[2] and a wine vase (see page opposite) of ample dimensions, which is found in a banquet scene at the same place.[3] Some

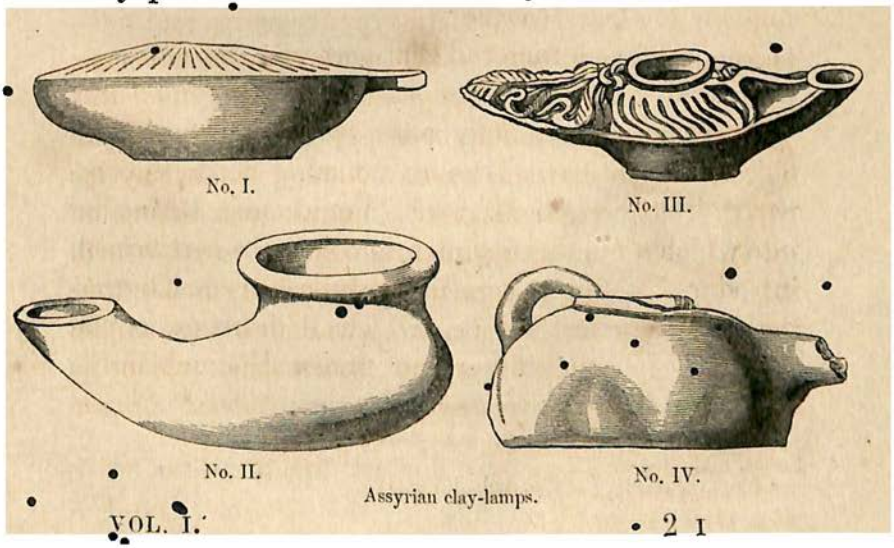
Lustral ewer, from a bas-relief, Khorsabad.

[1] *Nineveh and Babylon*, p. 574.
[2] See Botta's *Monument de Ninive*, vol. ii. Plates 141 and 162.
[3] Ibid. Plate 76; and see vol. v. p. 130.

of the lamps are also graceful enough, and seem to be the prototypes out of which were developed the more elaborate productions of the Greeks. Others are more simple, being without ornament of any kind, and nearly resembling a modern teapot (see No. IV.). The glazed pottery is, for the most part, tastefully coloured. An amphora, with twisted arms, found at Nimrud (see overleaf), is of two colours, a warm yellow, and a cold bluish green. The green predominates in the upper, the yellow in the under portion; but there is a certain amount of blending or mottling in the mid region, which has a very pleasant effect. A similarly mottled character



Wine vase, from a bas-relief, Khorsabad.



No. I. No. III. No. II. No. IV.

Assyrian clay-lamps.

is presented by two other amphoræ from the same place, where the general hue is a yellow which varies in intensity, and the mottling is with a violet blue.

Amphora, with twisted arms (Nimrud).

In some cases the colours are not blended, but sharply defined by lines, as in a curious spouted cup figured by Mr. Layard, and in several fragmentary specimens.[4] Painted patterns are not uncommon upon the glazed pottery, though upon the unglazed they are scarcely ever found. The most usual colours are blue, yellow, and white; brown, purple, and lilac have been met with occasionally. These colours are thought to be derived chiefly from metallic oxides, over which was laid as a glazing a vitreous silicated substance.[5] On the whole porcelain of this fine kind is rare in the Assyrian remains, and must be regarded as a material that was precious and used by few.

Assyrian glass is among the most beautiful of the objects which have been exhumed. M. Botta compared it to certain fabrics of Venice and Bohemia,[6] into which a number of different colours are artificially introduced. But a careful analysis has shewn that the lovely prismatic hues which delight us in the Assyrian specimens, varying under different lights

[4] See Layard's *Monuments*, 1st Series, Plate 85.

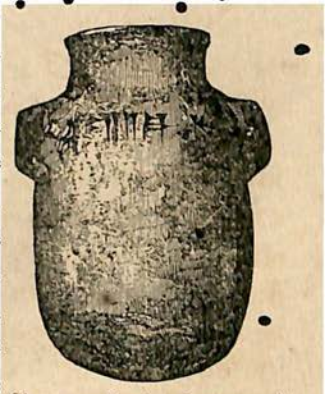
[5] Birch, *Ancient Pottery*, vol. i. p. 130.

[6] *Monument de Ninive*, vol. v. p. 173.

with all the delicacy and brilliancy of the opal, are due, not to art, but to the wonder-working hand of time, which as it destroys the fabric, compassionately invests

Assyrian glass bottles and bowl.

it with additional grace and beauty. Assyrian glass was either transparent, or stained with a single uniform colour.[7] It was composed in the usual way, by a mixture of sand or silex with alkalis, and, like the Egyptian,[8] appears to have been first rudely fashioned into shape by the blow-pipe. It was then more carefully shaped, and where necessary hollowed out by a turning machine, the marks of which are sometimes still visible.[9] The principal specimens which have been discovered are small bottles and bowls, the former not more than three or four inches high, the latter from four to five inches in diameter. The vessels are occasionally inscribed with the name of a king, as is the case in the



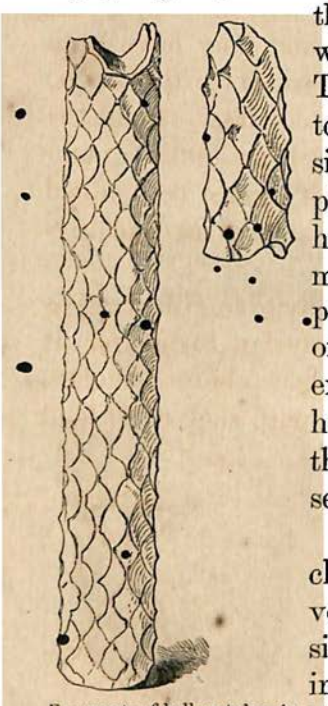
Glass vase, bearing the name of Sargon, from Nimrud.

[7] An elaborate account of the process whereby the Assyrian glass has become partially decomposed, and of the effects produced by the decomposition, will be found in Mr. Layard's *Nineveh and Babylon*, Appendix, pp. 674-676, contributed to that work by Sir David Brewster.

[8] Wilkinson, *Ancient Egyptians*, 1st Series, vol. iii. pp. 88, 89.

[9] Layard, *Nineveh and Babylon*, p. 197.

famous vase of Sargon found by Mr. Layard at Nimrud (see last page). This is the earliest known specimen of *transparent* glass, which is not found in Egypt until the time of the Psammetichi. The Assyrians used also opaque glass, which they coloured, sometimes red, with the suboxide of copper, sometimes white, sometimes of other hues. They seem not to have been able to form masses of glass of any considerable size; and thus the employment of the material must have been limited to a few ornamental, rather than useful, purposes. A curious specimen is that of a pipe or tube, honeycombed externally, which Mr. Layard exhumed at Koyunjik, and of which the accompanying is a rough representation.



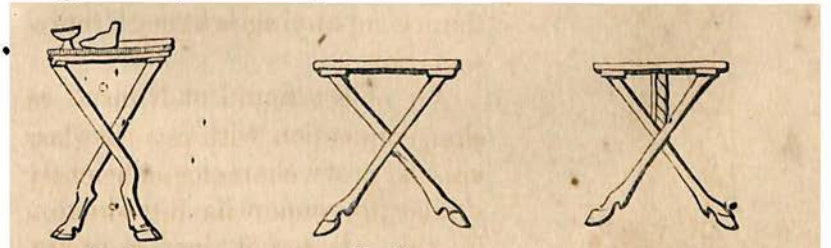
Fragments of hollow tubes, in glass, from Koyunjik.

An object found at Nimrud in close connection with several glass vessels[1] is of a character sufficiently similar to render its introduction in this place not inappropriate. This is a lens composed of rock crystal, about an inch and a half in diameter, and nearly an inch thick, having one plane and one convex surface, and somewhat rudely shaped and polished, which, however, gives a tolerably distinct focus at the distance of $4\frac{1}{2}$ inches from the plane side, and which may have been used either as a magnifying glass or to concentrate the rays of the sun. The form is slightly oval, the longest diameter being $1\frac{6}{10}$ inch,

[1] Layard, *Nineveh and Babylon*, p. 197.

the shortest $1\frac{4}{10}$ inch. The thickness is not uniform, but greater on one side than on the other. The plane surface is ill-polished and scratched, the convex one, not polished on a concave spherical disk, but fashioned on a lapidary's wheel, or by some method equally rude.[2] As a burning glass the lens has no great power; but it magnifies fairly, and may have been of great use to those who inscribed, or to those who sought to decipher, the royal memoirs.[3] It is the only object of the kind that has been found among the remains of antiquity, though it cannot be doubted that lenses were known and were used as burning-glasses by the Greeks.[4]

Some examples have been already given illustrating the tasteful ornamentation of Assyrian furniture. It consisted, so far as we know, of tables, chairs, couches, high stools, footstools, and stands with shelves to hold



No. I. No. II. No. III.

Ordinary Assyrian tables, from the bas-reliefs.

the articles needed for domestic purposes. As the objects themselves have in all cases ceased to exist, leaving behind them only a few fragments, it is necessary to have recourse to the bas-reliefs for such

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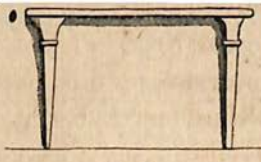
[2] See the description furnished to Mr. Layard by Sir David Brewster. (*Nineveh and Babylon*, p. 197, note.)

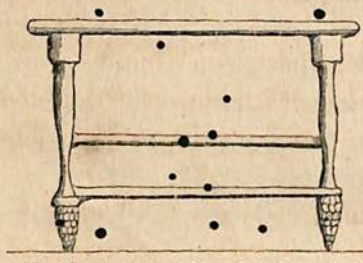
[3] Vide supra, p. 330.

[4] This is evident from Aristophanes (*Nub.* 746-749), where Strepsiades proposes to obliterate his debts from the waxen tablets on which they are inscribed by means of "that transparent stone wherewith fires are lighted." (τὴν λίθον τὴν διαφανῆ, ἀφ' ἧς τὸ πῦρ ἅπτουσι.) Compare also Theophrast. *De Igne*, 73.

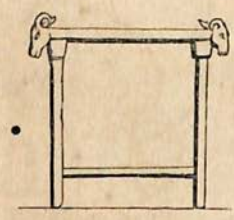
notices as may be thence derived of their construction and character. In these representations the most ordinary form of table is one in which the principle of our camp-stools seems to be adopted, the legs crossing each other as in the woodcuts on the last page. Only two legs are represented, but we must undoubtedly regard these two as concealing two others of the same kind at the opposite end of the table. The legs ordinarily terminate in the feet of animals, sometimes of bulls, but more commonly of horses. Sometimes between the two legs we see a species of central pillar, which, however, is not traceable below the point where the legs cross one another. The pillar itself is either twisted or plain (see No. III. on last page). Another form of table, less often met with, but simpler, closely resembles the common table of the moderns. It has merely the necessary flat top, with perpendicular legs at the corners. The skill of



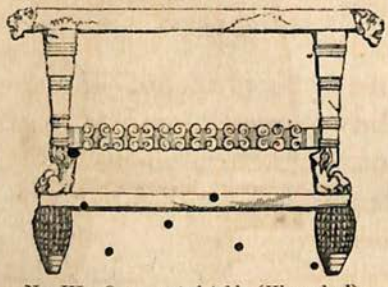
No. I.



No. II. Assyrian tables, from bas-reliefs (Koyunjik).

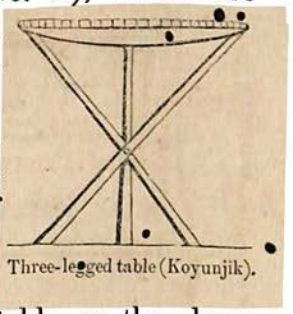


No. III. Table, ornamented with rams' heads (Koyunjik.)



No. IV. Ornamented table (Khorsabad).

the cabinet-makers enabled them to dispense in most instances with cross-bars (see No. I.), which are however sometimes seen (see No. II., No. III., and No. IV.), uniting the legs of this kind of tables. The corners are often ornamented with lions' or rams' heads, and the feet are frequently in imitation of some animal form (see No. III. and No. IV.). Occasionally we find a representation of a three-legged table, as the above specimen, which is from a relief at Koyunjik. The height of tables appears to have been greater than with ourselves; the lowest reach nearly to a man's middle; the highest are level with the upper part of the chest.

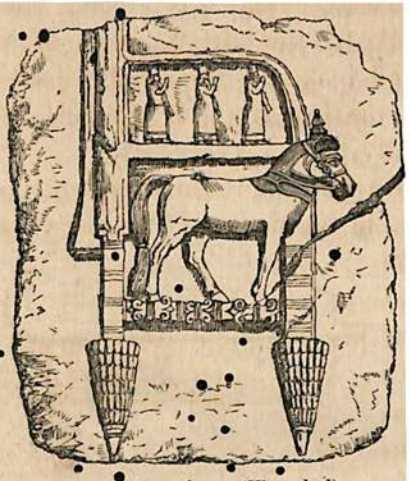


Three-legged table (Koyunjik).

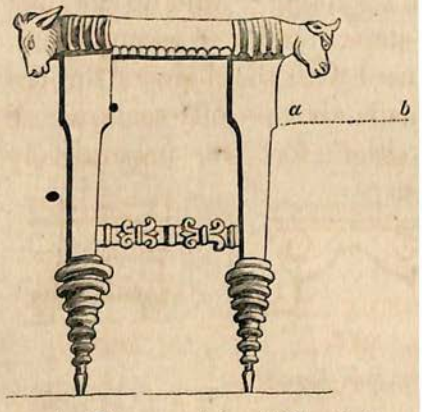
Assyrian thrones and chairs were very elaborate. The throne of Sennacherib exhibited on its sides and arms three rows of carved figures, one above another, supporting the bars with their hands. The bars, the arms, and the back were patterned. The legs ended in a pine-shaped ornament, very common in Assyrian furniture. Over the back was thrown an embroidered cloth, fringed at the end, which hung down nearly to the floor. A throne of Sargon's was adorned on its sides with three human

Sennacherib on his throne (Koyunjik).

figures, apparently representations of the king, below which was the war-horse of the monarch, caparisoned as for battle.[5] Another throne of the same monarch's had two large and four small figures of men at the side, while the back was supported on either side by a human figure of superior dimensions.[6] The use of chairs with high backs, like these, was apparently confined to the monarchs. Persons of less exalted rank were content to sit on seats which were either stools, or chairs, with a low back level with the arms.[7]



Arm-chair or throne (Khorsabad).



Assyrian ornamented seat (Khorsabad).

Seats of this kind, whether thrones or chairs, were no doubt constructed mainly of wood. The ornamental work may, however, have been of bronze, either cast into the necessary shape, or wrought into it by the hammer. The animal heads at

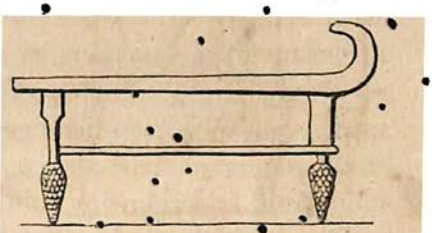
[5] Botta, *Monument de Ninive*, vol. i. Plate 17.

[6] Ibid. Plate 18.

[7] In the series from which this representation is taken the figures appear seated in such a way as would imply that the actual seat was level with the dotted line *ab*.

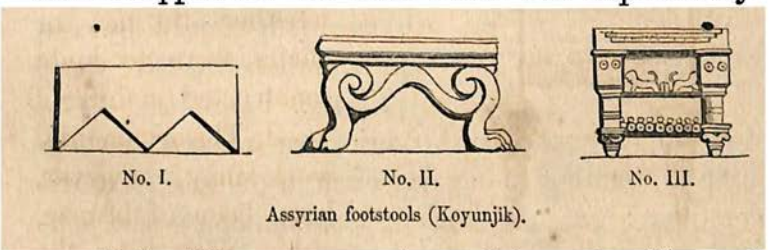
the ends of arms seem to have fallen under the latter description.[8] In some cases, ivory was among the materials used: it has been found in the legs of a throne at Koyunjik,[9] and may not improbably have entered into the ornamentation of the best furniture very much more generally.

The couches which we find represented upon the sculptures are of a simple character. The body is flat, not curved; the legs are commonly plain, and fastened to each other by a crossbar, sometimes terminating in the favorite pine-shaped ornament. One end only is raised, and this usually curves inward nearly in a semicircle. The couches are decidedly lower than the Egyptian;[10] and do not, like them, require a stool or steps in order to ascend them.



Assyrian couch, from a bas-relief, Koyunjik.

Stools, however, are used with the chairs or thrones of which mention was made above—lofty seats, where such a support for the sitter's feet was imperatively



No. I. No. II. No. III.

Assyrian footstools (Koyunjik).

required. They are sometimes plain at the sides, and merely cut *en chevron* at the base; sometimes highly ornamented, terminating in lions' feet supported on cones, in the same[1] (or in volutes) supported on balls,

[8] Layard, *Nineveh and Babylon*, p. 199.

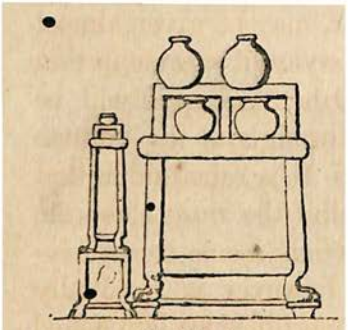
[9] Ibid. p. 198.

[10] Wilkinson, *Ancient Egyptians*, 1st Series, vol. ii. p. 201.

[1] See the Woodcut on p. 487.

and otherwise adorned with volutes, lion-castings, and the like. The most elaborate specimen is the stool hitherto inedited (No. III.), which supports the feet of Asshur-bani-pal's queen on a relief brought from the North Palace at Koyunjik, and now in the National Collection. Here the upper corners exhibit the favourite gradines, guarding and keeping in place an embroidered cushion; the legs are ornamented with rosettes and with horizontal mouldings; they are connected together by two bars, the lower one adorned with a number of double volutes, and the upper one with two lions standing back to back; the stool stands on balls, surmounted first by a double moulding, and then by volutes.

Stands with shelves often terminate, like other articles of furniture, in animals' feet, most commonly lions', as in the accompanying specimens.



Stands for jars.

Of the embroidered robes and draperies of the Assyrians, as of their furniture, we can judge only by the representations made of them upon the bas-reliefs. The delicate texture of such fabrics has prevented them from descending to our day even in the most tattered condition; and the ancient testimonies on the subject are for the most part too remote from the times of the Assyrians to be of much value.[2] Ezekiel's

[2] The Greek and Roman ideas on the subject of the Assyrian dress were probably derived from Ctesias, at least mainly. He seems to have ascribed to Sardanapalus, and even to Semiramis, garments of great magnificence and of delicate fabric. (See Diod. Sic. ii. 6, § 6, 23, § 1, and 27, § 3.) But he did not, so far as we know, distinctly speak of these gar-

' ' O ' ++ ' * *+ \X"

6 C:' ^ B' G:' 6 9' 6 ' FG CG' C ? :B' F G 6' B8CG' >' '
H: ;' BB9 ><B' > ' >B' ' ?> :' ' >6' J ? H >6 ' '
:B ? 69 ' >#6;' :A:6' ?' G B' F :' C>66 ' > G: ' 6 @G'
G> ' :B' @:9 6;' G:' :A ; :6C:' ' G:' BC8 H 8 :B '
G:' BC8 H 8 :B' BG F' 8B' G> ' @:B' >6;' ; >H: :B' '
> ' 6;B' F: :' > ? B ' > F>9B' ? :' ' :BB' H> : 6:;'4ý
>.;' G B' H> : 6 6 ' FG CG' B' :6: > 9' ' >6' :D '
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>B' ' G:' :6;B' ' B : : A:B' >6;' G:' @ ? B' ' @:B' '
JH CB'4 > ' G: B' I#B' :D :6; : ;' A:C' IG:' FG :' ; :BB '
G B' B' ? :' H> C8 > 9' G:' C>B:' nA6 G' G:' > ? :6 B'
' G:' 6 B ' FG CG' > :' '>' ? > 6 C:6C:' ; C8 ' '
; :BC @:' ' ' :H :B:6 ' F G 6' >' 6> F#' C ? H>BB '
6:' ' F ' BH:C ? :6B ' G F :A: ' ? >9' @:' A:6' > ? B '
> ' >6; ? ' 6; C> 6 ' ; : :6 ' B 9 :B' ' 6> ? :6 > 6'
8B8>' 6' G:' 9>' >HH> : ' G: ' :D>? H :B' F ' @:'
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FG: :' G:' 6 ' B' :H :B:6 : ; ' ' B' : ? > ' >@ :' G> '
G:' r> :B ' :H :B:6 > 6B' :DG @ ' G:' ? B ' : >@ > :'
9H:B ' I ' > : ' FG CG' >' :>C 6' B: : ? B' ' B: ' 6 ('
B ? H C 9' B' > :C : ; (FG CG' G F :A: ' B' >; 8> 9'
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G,B>' 4,2"A>#' @ F' G:2 F>:>F' ? 2:O'
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G2B F' ? "A' 42:F# @ F' = @F>' 2 ' 4>F@:!'
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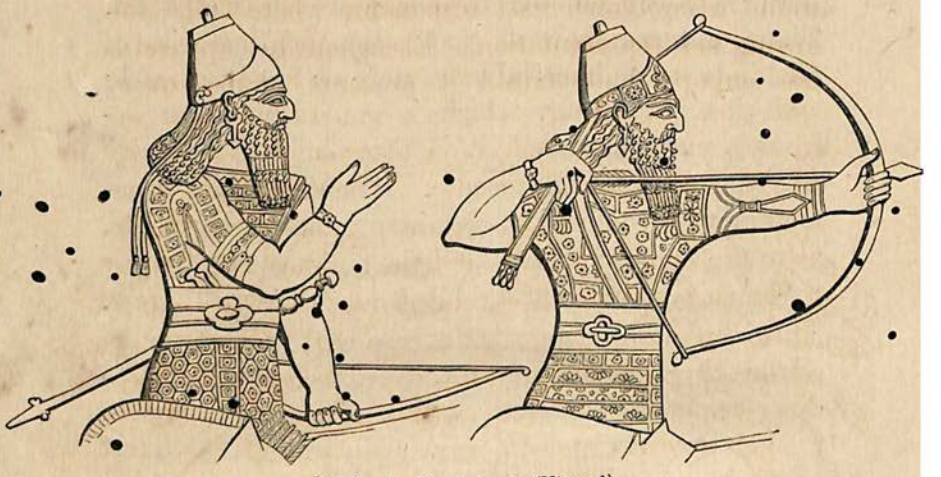
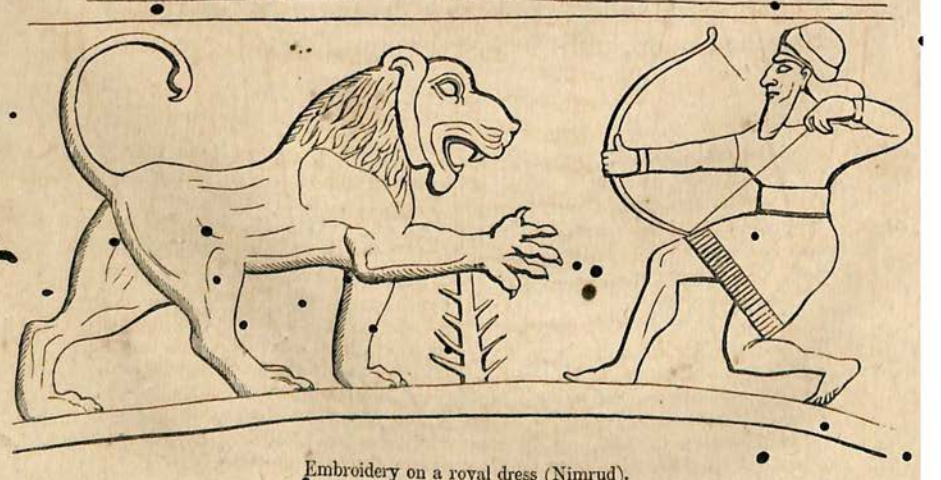
little short of that which prevailed in the age of the first monuments. The draperies of Asshur-idanni-pal (Sardanapalus) I., in the north-west palace at Nimrud,



Royal embroidered dresses (Nimrud).

are at once more minutely laboured and more tasteful than those of any later time. Besides elegant but unmeaning patterns, they exhibit human and animal forms, sacred trees, sphinxes, griffins, winged horses,



Embroidery on a royal dress (Nimrud).

and occasionally bull-hunts and lion-hunts. The upper part of this king's dress is in one instance almost covered with figures, which range themselves round a circular breast ornament, whereof the following is a representation. Elsewhere his apparel is less superb, and indeed it presents almost every

Circular breast ornament on a royal robe (Nimrud).

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C: >J: ;'H C 8 :' ' G:' 6 G86 ^' 0 G' > N? ' G:'
6:D ' 6 ' FG ' G>B' : ' ? >69' ? 68? :6 B' G:' C>B:' B'
: ? > >@ 9' ; : :6 ' > 6' B' :H :B:6 : ;' > F>9B'
' 6' G:' B>? :' ; :BB (>' 6 ' 6 : ;' @:' : ? @ ; : : ;'
B 6H 9' F G' B: :B' FG CG' > : 'BH :>;' B ? : FG> '
BC>6 9' A: ' B' FG :'B8 >C: ' :66>CG:B @<B' >HH> : '
Q B' 6:> 9# ' G:' B>? :' 6; ' ' '>69 G 6 ' CG: '
G 8 G' B ? : ? :B' G:' B: :B' > :' ? : ; ^' & B'
>6; B 6' BB 8 B@>6 H> ' > B ' > :C B' G:' B: :'
6>? :6 ' G8 Q 5A: B' > :' ' G:' >B :' >6;' G:'
: >@ > 6' ' G:' :> 9' 6 B' &:' F :> B' >' @ :>B '
6>? H6 'C 6 > 89 'G8? >6' 8 :B '> 86;' FG CG' > :'
>6 : ;' >' 68? @: ' ' ? 68 :' >6;' : >@ > :' H> : 6B
U' ' G B' >CC 86 ' ' G:' > B' ? ? : C' >6;' G: ' 6'
0 G CG' G:' BB9 >6B' >HH:> ' 'G>A:' :DC: : ; ' ' ? G '
@:' :DH:C : ;' G> ' G: :' BG 8 ;' @:' >; ; : ;' >' B : CG' '
G: 'BC :6 C' 6 F : ; : ' 6' G B' B8@J:C 'G F: A: '
B ' :' B' > ' H :B:6 ' 6 F6 ' FG :' B ' ? 8CG' ? >9' H BP
B @ 9' @:C ? :' 6 F6' F G 6' >' BG ' ? : ' G> ' 'B: : ? B'
@:B ' ' ? ' ' ' ' 8CG' ' 6 9' 6' G:' : B '>6;'
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6 F' 6' G:' $ BG' %8B:8 ?' BG> ' G>A:' @: : 6' ; :P
C HG: : ; ' B 8; : ; ' >6;' >6B > : ; ' ' F ' H @>@ 9' @:'
86;' G> ' G:9' C 6 > 6' >' : >@ 9' 8 ' 6; C> 6' '
FG> ' BB9 >6' BC :6C:' :> 9' F >B4 >6;' ' F ' G:6'
G:' B: :6' G F' > ' ' F>B' :> ' >6;' A> 8>@ : ' 6' FG> ' :P
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B 8; : ; ' >6;' _G :' F B' 8H 6' ' :DG @ ' :> ' CJ :' ;'
; :6C:' G 6 9' B' :A ; :6 9' ?8CG' A> 8: ; ' >6;'
A: 4 ' :D>C ' :C ;B' > :' :H ' FG: :@9' G:' >HB:' ' ? :'
C>6' :A:6' 6 F' @:' >CC8 > : 9' ? :>B8 : ; ' : >HG9' '
>6 ' G B 9' G>A:' :>CG' >6' ?H >6 ' H >C:' 6' BB9 > '
H> 6 6 4 FJ :' >B 6 ?9' >6;' ?9 G 9' CC8H9' > '
:>B ' B' :> ' >' BG> :' '> :6 6' G:' >B 6 ? C> Q'
@B: A> 6B' :C ; : ;' > :' G 8 G ' '@:' :78:6 9' 6P
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B' >' A: 9' >A 8 :' B8@J:C ' >6;' >HH:> B' '@:' :> : ;'
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G B' H: H :' H BB:BB: ;' 6' G:' B8@J:C ' ' H >C C>' T : '
CG>6 CB' B' 8B > : ;' F G' : >@ :' 8 6:BB' 6' G:'
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C BB>' @8 B' ?' G:' 78> 9' ' G:' H> >C:' > : F>9B'
B' :H :B:6 : ;' 6' G:' ? B ' : >@ > :' ; : > ^' G:' A: 9'
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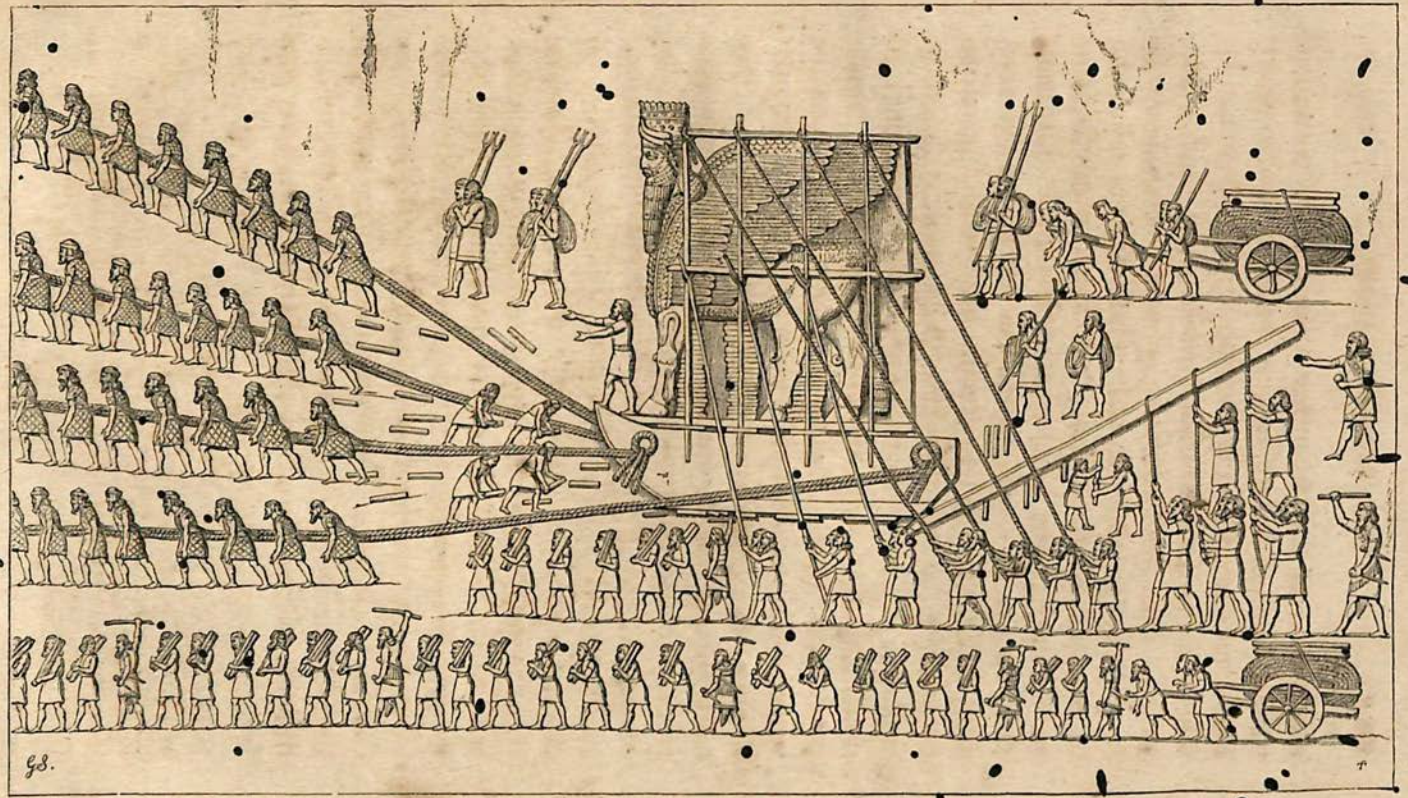
U ?>69 I 6B 6 F: G A: #> C 6B ;: >@ : BH>C: 86; 6; H >C: G:? 6 G: B8?? H > C > H > J6B ? G 9 : G 9 N 6 6: 9S ::G G F 8 ;> 6: 6; C : C 6B ;: >@ : ?:CG>6 C> # 6 F :; : G: 8 G: >C 6 F ?>;: C :> ?# G: @>B :&: B G> G:9 F 8 G > G: : >@ > :C> A 6 G: C BB @: : G:9 H C::;:; > B: G:? H8 G:? 6 H >C: ^ B >6 >;; 6> > 8H :6 G: O B B 6C: BG FB G> G:9 G>; 6 :> > 6 = >CC < ;:6 G>HH:6? 6 G: >6BH >HH:> B ?I G: :H :B:6 > 6B G> G:9 H >C:; G: C BB8B 6 U > B >6; 6 H B :4 6 6 > 8C F> 6 > 9 6; @8 6 #> * 8 : F ;:6 B :; : BG>H:; 6:> 9 G : @ > C>B J F G >6 H:6F BH> B @:>?B A CG C BB:; :>CG G: > G >6 :B >6; ' : : ?>;: H: :C 9 G @9 ?:>6B F:; :B >A: G: :> ;>6 : G: ?>BB HH 6 A: B ;:F>9B H:B F: : > >CG:; G: H G: C>B 6 > G: JS 6 FG: : G: @:>?B C BB:; 6: >6 G: >6; F: : G: ; >8 @9 F H> :; # >@ 8 : B 6: 6 : G: B ;: G: B > 8: $:B ;:B G:B: F ;:6 B j H HB F: : >HHG:; 6 : G: B ; G: B:C 6; G ` 6 > C BB @:>?B G: ;# > B @9 ?:6 FG B: @8B 6:BB F 8 ; @: :B B G: :>B 6C 6> 6 G: G8 : B 6: :>6 6: B ;: ? :# G>6 G: G: G: 6 G: B :; : 6 FG CG G: C BB8B B ; F>B C8 A:; :6 9 8HF> ;B > C P > : B B ; 6 > 6 G: 86; >6; K:6>@ :

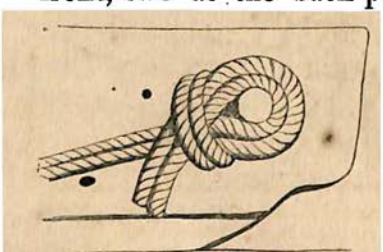
: / @E@:F@ "5# = @M >F "A@ = @O> 2 = :2D>=> B 2 "A # "A> 42 ":@:E ?@# "A> % !: 0A : / @E@:F ">,,# B# "A@ N # % $!D2, B I K G" $:@=>?2:O ?@# B#>F 2: A # 7 2EB O F #42D>: ># 42 D 4>F = 2D M "A> M:>@ #4B, "B:># 2? A = 2 A # /A : J "A> : " #A B#>B= P /A ! I Q! I JK : ' ! II ! 2"> K A> >">> "A 4> "B:E 42B,F



Assyrians moving a human-headed bull (partly restored from a bas-relief at Koyunjik).

rise with readiness upon the rollers, which were continually placed before it by labourers just in front, while others following behind gathered them up when the bulky mass had passed over them. The motive power was applied in front by four gangs of men, who held on to four large cables, at which they pulled by means of small ropes or straps fastened to them, and passed under one shoulder and over the other, an arrangement which enabled them to pull by weight as much as by muscular strength, as the annexed figure will plainly show. The cables appear to have been of great strength, and are fastened carefully to four strong projecting pins: two near the front, two at the back part of the sledge, by a knot so tied that it would be sure not to slip. Finally, as in spite of the rollers, whose use in diminishing friction, and so facilitating progress, was evidently well understood, and in spite of the amount of force applied in front, it would have been difficult to give the first impetus to so great a mass, a lever was skilfully applied behind to raise the hind part of the sledge slightly, and so propel it forward, while to secure a sound and firm fulcrum, wedges of wood were inserted between the lever and the ground. The greater power of a lever at a distance from the fulcrum being known, ropes were attached to its upper

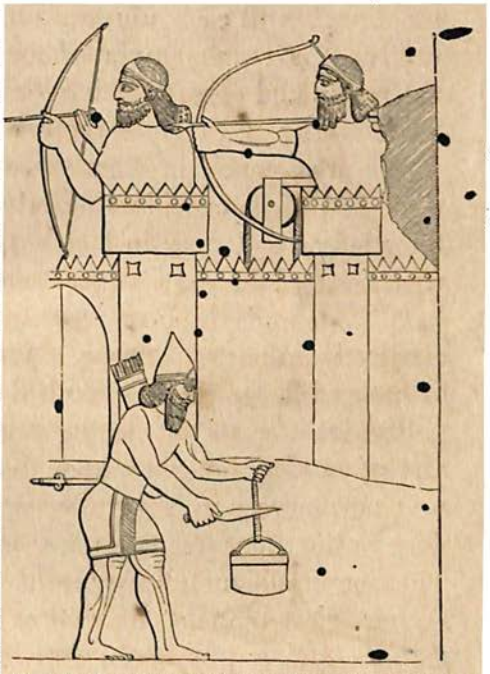
Labourer employed in drawing a colossal bull (Koyunjik).



Attachment of rope to sledge, on which the bull was placed for transport (Koyunjik).

end, which could not otherwise have been reached, and the lever was worked by means of them.

We have thus unimpeachable evidence as to the mode whereby the conveyance of huge blocks of stone along level ground was effected. But it may be further asked, how were the blocks raised up to the elevation at which we find them placed? Upon this point there is no direct evidence; but the probability is that they were drawn up inclined ways, sloping gently from the natural ground to the top of the platforms. The Assyrians were familiar with inclined ways,[2] which they used almost always in their attacks on walled places, and which in many cases they constructed either of brick or stone.[3] The Egyptians certainly employed them for the elevation of large blocks;[4] and probably in the earlier times, most nations



Part of a bas-relief, showing a pulley and a warrior cutting a bucket from the rope.

[2] The "banks" of Scripture (2 Kings, xix. 32; Is. xxvii. 33).

[3] See Mr. Layard's *Monuments*, 2nd Series, Plates 18 and 21.

[4] The great stones of which the pyramids were built were certainly raised from the alluvial plain to the rocky platform on which they stand in this way. (Herod. ii. 124; compare Wilkinson in the author's *Herodotus*, vol. ii. p. 200, note.[e]) Diodorus declares that the pyramids themselves were built by the help of mounds (i. 62, § 6). This, however, is improbable.

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